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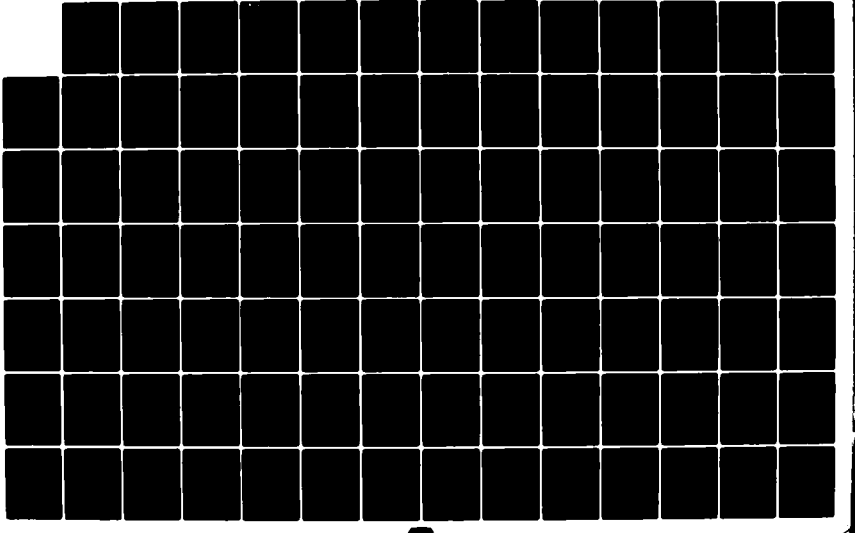

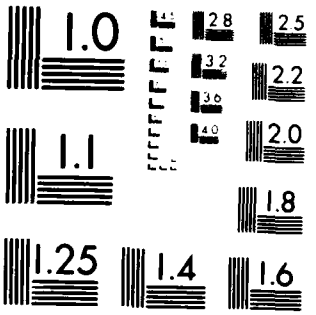

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FINAL REPORT
VOLUME II: APPENDICES

LOW INTENSITY CONFLICT

PREPARED FOR:

U.S. ARMY
TRAINING AND DOCTRINE COMMAND

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ROBERT H. KUPPERMAN AND ASSOCIATES, INC.

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Volume II provides a syllabus outline for low-intensity warfare curriculum and a proposed organization for Special Operation and Ranger Forces within the Army. In addition, the following critical aspects of low-intensity operations are described, in greater detail, in separate appendices: A conceptual overview of the nature of unconventional warfare; a description of the risks posed by Soviet proxy operations in low-intensity warfare; a description of the peculiar logistical operations the Army must be prepared to use in LIC; a discussion of the

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use of terrorism as a strategic tool of LIC; a discussion of the technological demands of future LIC missions and the need for an improved system of research and development.

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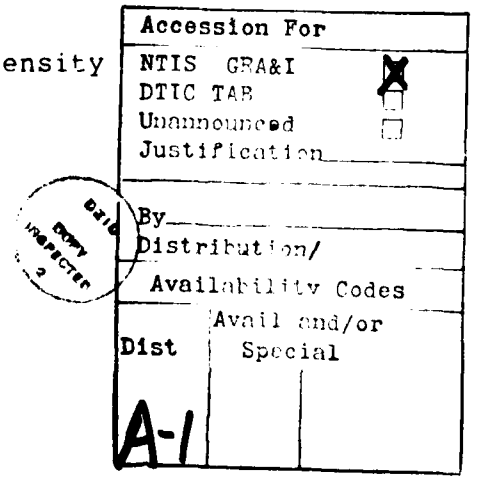


VOLUME II: APPENDICES

PREFACE

The following appendices fall into two categories. The first two, required under the KAI contract, are so placed to avoid any discontinuity in the conceptual flow of the overall report. These are:

- A syllabus outline of a low-intensity warfare curriculum (Appendix A)
- A proposed organization for Special Operations and Ranger Forces within the Army (Appendix B)

The remaining appendices treat, in greater detail, critical aspects of low-intensity operations and were used as inputs to the final report itself:

- A conceptual overview of the nature of unconventional warfare prepared by noted expert in the field, Dr. J. Bowyer Bell (Appendix C)
- A description of the risks posed by Soviet proxy operations in low-intensity warfare prepared by Colonel William Taylor (ret.) (Appendix D)
- A description of the psychological operation the Army must be prepared to use in low-intensity conflict by Colonel William Taylor (ret.) (Appendix E)
- A discussion of the use of terrorism as a strategic tool of low-intensity warfare by Dr. Robert Kupperman (Appendix F)
- A discussion of the technological demands of future low-intensity warfare missions and the need for an improved system of research and development by Mr. David Williamson, Jr. (Appendix G)

Robert H. Kupperman
June 1983

APPENDIX A

SYLLABUS OUTLINE

ELECTIVE COURSE

LOW-INTENSITY CONFLICT

Lesson 1: Low-intensity Conflict: Major Threat for the Future

This lesson defines: "Low-intensity Conflict" (LIC) in the context of the most likely (and most important) threats to U.S. security interests to the year 2000. Rationale is provided to demonstrate that, from the Soviet perspective, LIC must be characterized as, "Low cost/low risk operations with high geostrategic payoffs." Each of the components of LIC -- special intelligence operations, psychological operations, terrorism, insurgency and proxy operations -- are placed in context.

Lesson 2: The Nature of Unconventional Warfare

This lesson develops the fundamental aspects of unconventional conflict which must be pondered in shaping U.S. Army mission, organizations and training. Special attention is given to questions of intensity, levels of violence, stages of escalation or diminution and to the implications of non-quantitative factors in unconventional warfare.

Lesson 3: Soviet Special Intelligence Operations: Challenge and Response(s)

This lesson, which may or may not be a classified presentation, explains what is known of Soviet special intelligence operations.

Lesson 4: The Nature of Psychological Warfare

This lesson develops the nature of and extensive use of psywar by the USSR and its proxies to discredit foreign governments, leaders and international organizations through the use of disinformation -- rumor, insinuation, pseudo-events, distortion of facts and forgery. The vulnerabilities of Western democracies to psywar is explained as well as the lack of U.S. preparedness to cope with this increasing phenomenon in East-West relations.

Lesson 5: Psychological Operations

This lesson begins with an explanation of the objectives of PSYOPS. U.S. Army PSYOPS capabilities, past and present, and requirements for the future are explored. Past difficulties of measuring success in PSYOPS are delineated and new criteria are developed.

Lesson 6: International Terrorism: Challenges to U.S. Interests

This lesson explores the historical aspects and genesis of international terrorism, its amorphous origins, the socio-political contexts from which

it springs and its transnational links. Contemporary terrorism is explained -- the groups involved, the organizations, the links among them and the activities in which they have been involved.

Lesson 7: High Technology Terrorism

Unlike the older forms of terrorism such as random bombings and skyjackings (which no longer attract the extended media "hype" fundamental to the terrorists' objectives), this lesson focuses on the newer, nationally-disruptive forms designed to paralyze modern industrial societies. The increasing vulnerabilities brought on by the information and communications revolution and by successive revolutions in technology are analyzed with special attention to the vulnerabilities of the U.S. mobilization base.

Lesson 8: U.S. Policy and Counterterrorism

This lesson explains national policy and operational choices in the context of certain types of terrorist activities and highlights the lack of adequate security and countermeasure technology and mechanisms for crisis management.

U.S. Army capabilities and the role of the Army in the national policy schema for dealing with different forms of terrorism are explained.

Lesson 9: Counterterrorism Operations

National policy and U.S. Army missions in counterterrorism are explained side by side. Current Army organizations and doctrine and technological capabilities in Special Operations Forces are analyzed in the light of projected long-term requirements.

Lesson 10: Insurgency Warfare: Continuing Threat to the Industrial Democracies

The socio-political origins of modern insurgency are explained in the context of the modern "revolution of rising expectations." The attractiveness for the USSR of the opportunities presented by "wars of national liberation" in Third World areas of geo-strategic value is highlighted. Special attention is paid to the vulnerabilities of the western industrial democracies to insurgencies in littoral countries along major sea lines of communication.

Lesson 11: Counter-Insurgency Operations I

This lesson begins with a review of major counter-insurgency doctrines and a judgment of relative successes and failures of each. U.S. Army Internal Defense and Development (IDAD) organization and doctrine is reviewed and its efficacy projected in the light of the more likely insurgency situations in selected geographic regions of the world.

Lesson 12: Counter-Insurgency Operations II

The principal forces of this lesson are on existing technology and the R&D and procurement requirements for counter-insurgency operations of the future. In addition to requirements for U.S. Army capabilities, the capabilities of the military or para-military establishment of (or insurgent groups in) selected Third World countries to absorb high-technology systems will be examined.

Lesson 13: Soviet Proxy Warfare: Nature and Apparent Design

This lesson focuses on the growing development by the use of proxy military forces to pursue mutual strategic objectives antithetical to U.S. national interests with relatively low risk of direct confrontation between U.S. and Soviet military forces. Particular emphasis is placed on the vulnerabilities in Soviet-proxy relationships.

Lesson 14: Responses to Soviet-Proxy Operations

This lesson develops broad doctrinal guidelines for U.S. Army response options to deal with Soviet proxy interventions given alternative strategic guidelines of deterrence, preemption or reaction. Two scenarios will be developed to explore the capabilities of REDCOM and SOCOM units to deal with Soviet-proxy threats and to assess the requirements for a different type U.S. Army organization, e.g., "light infantry."

Lesson 15: Joint LIC Operations

The principal focus here is on existing joint capabilities -- organization, doctrine,

equipment and training to engage in the likely forms of LIC for the future - special attention will be given to C3I, and strategic mobility.

Lesson 16: Combined LIC Operations

Especially important for the future will be an assessment of the potential for combined LIC operations in Third World countries. This lesson assesses existing mechanisms for combined planning, with both our NATO allies and allies in other regions of the world to determine scope, and the strengths and weaknesses of those mechanisms.

APPENDIX B

PROPOSED TYPE ORGANIZATION AND MISSIONS FOR ARMY LIC UNITS

PROPOSED TYPE ORGANIZATION AND MISSIONS FOR ARMY LIC UNITS

A. SOCOM. The Army Special Operations Command (SOCOM) occupies a unique position within a network of Army, joint and combined commands. In its current configuration, it is suited for some of the diverse missions of the lower end of the LIC spectrum, but not other missions for which a real organization, (the light infantry brigade) should be tested (see B below). By virtue of its training mission, both in terms of providing the Army with special operations forces and in carrying out its security assistance role, it is linked to the Training and Doctrine Command (TRADOC). Because elements of SOCOM may operate in conjunction with expeditionary and other conventional forces, both in training and in exercises, it is linked to Forces Command (FORSCOM). And finally, since its component units, once deployed overseas in both peace and wartime contingencies, will operate as part of joint and combined operations, SOCOM is linked to major U.S. commands such as EUCOM (European command-- for Europe and Africa), CENTCOM (Central Command--for the Mideast and Southwest Asia), PACOM (Pacific Command--for East and Southeast Asia), and SOUTHCOM (Southern Command--for Central and South America).

In addition to these often confusing and contradictory command relationships, the organization and missions of SOCOM will be determined by the probability of low-intensity conflict in each of the five regions of the world -- Africa, the Americas, the Mideast, Asia and Europe -- and the specialized language, environmental, cultural and military skills associated with

each. As indicated in the preceding analysis of low-intensity conflict, special operations forces need to be both expanded and more specialized. As a result, the following type configuration logically proceeds for the make-up of SOCOM.

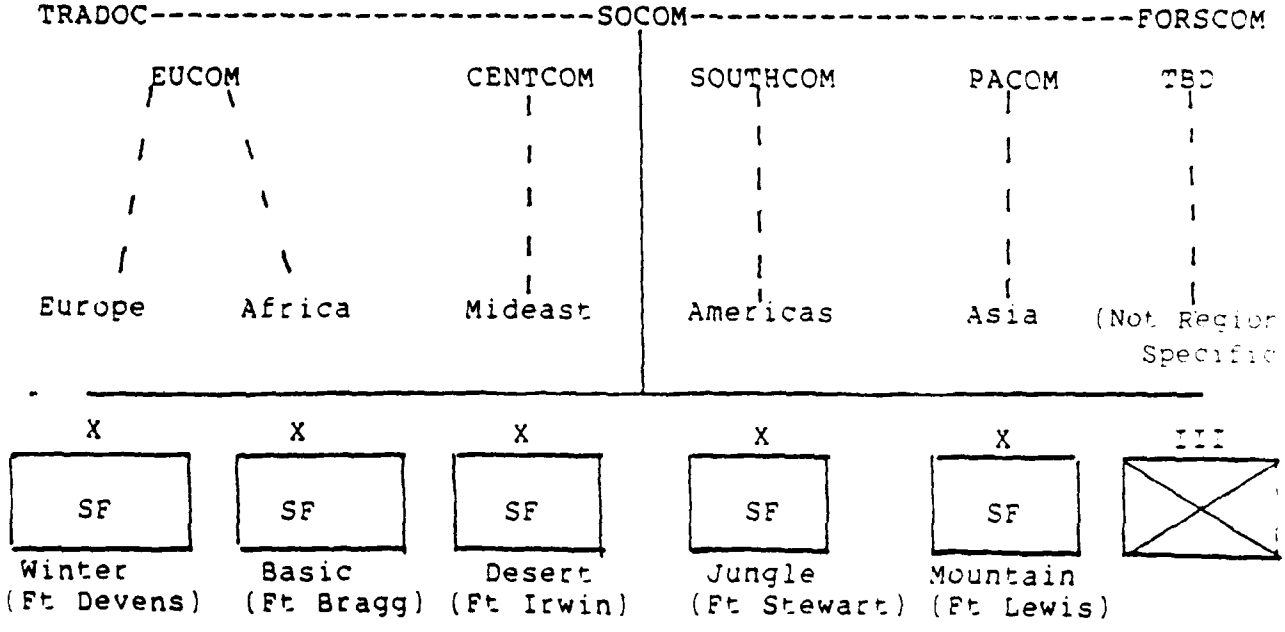
Special Operations Command

Organization: Headquarters element

	Special Forces Groups	]SOF Battalions
	Infantry Regiment (Ranger)	]HQ Companies

Missions:

- o Command, control, training and operational planning of all special operations forces
- o Tasks subordinate SF Groups for ongoing security assistance missions.
- o Maintains liason with TRADOC for Army-wide SF and Ranger Training and doctrinal proponency.
- o Coordinates plans with FORSCOM and regional major commands for both peacetime and wartime deployments.
- o Augments major commands and subordinates units upon deployment, forming appropriate C^3I with Group, Regiment and Battalion headquarters elements as deployed.



Special Forces Groups

Organization: Headquarters Company

Forward Deployed SF Battalions

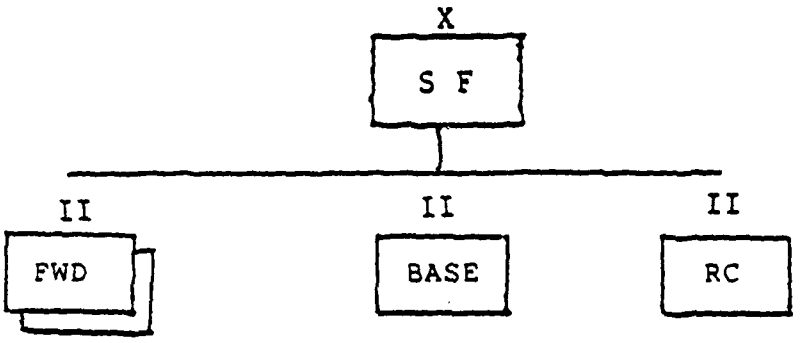
Training Base SF Battalion

Reserve Component Battalion

Missions:

- Command, control, training and operational planning of assigned active duty and reserve SF Battalions.
- Tasks assigned battalions for ongoing training and forward deployed missions on a rotational basis.

- Conducts basic or environmental-specific (winter, mountain, jungle or desert) training for all SF personnel.
- Conducts regional-specific training and operational planning for assigned region (Africa, Europe, Americas, Mideast, Asia).
- Coordinates operations, training and doctrine with regional and environmental partner Ranger Battalions.
- Deploys C^3I cell to augment SOCOM, MACOM and battalion elements as needed.



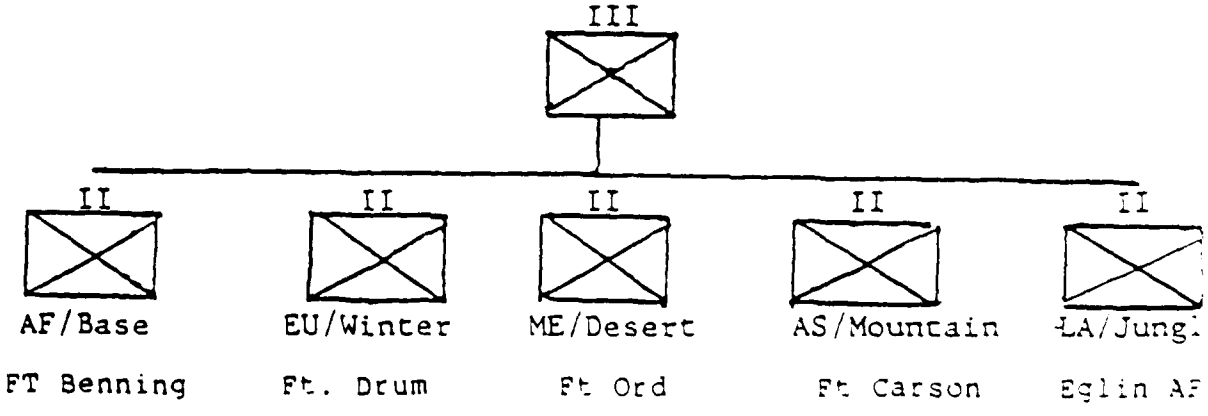
Infantry Regiment (Ranger)

Organization: Headquarters Company

Ranger Battalions

Missions:

- o Command, control, training and operational planning of assigned battalions.
- o Tasks assigned battalions for environmental-specific or basic training.
- o Prepares and tasks assigned battalions for regional-specific deployments.
- o Coordinates operations, training and doctrine with regional and environmental partner SF Groups.
- o Deploys C^3I cell to augment SOCOM, MACOM and battalion elements as needed.

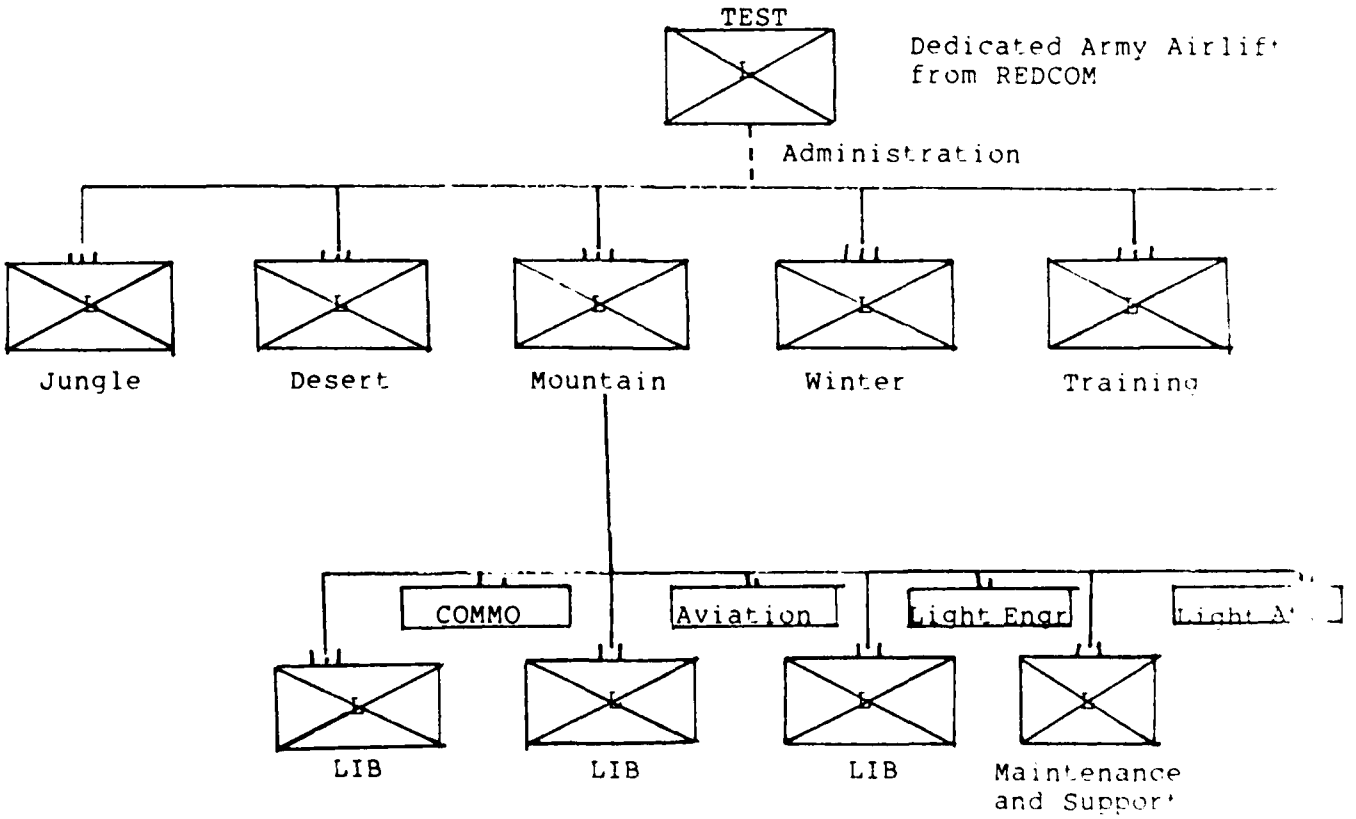


B. LIGHT INFANTRY. There are many future challenges at the upper end of the LIC spectrum for which SOF's are not suited. The experience of Vietnam notwithstanding, there will be LIC situations in which commitment of U.S. forces larger than and with different capabilities than SOF units (but smaller than and with different capabilities than U.S. conventional units) will be required. One such scenario might involve rapid but infrequent concentrations of insurgent forces, such as occurred infrequently, but with major impact, in Vietnam. The 1968 Tet offensive is a major example. SOF forces would be incapable of meeting such concentrations. U.S. conventional units deployed, trained and equipped for other missions would not be properly responsive.

Another scenario would involve proxy force battalion to division-size units moving rapidly from a standing start to attack nearby targets located thousands of miles away from CONUS but involving U.S. vital national interests. Alternatively, this scenario might involve a planned preemptive U.S. attack of similar size proxy forces at various locations in Africa, the Middle East/Southwest Asia Region or Central America. (A requirement to engage Sandinista regular units in their home territory might be an appropriate example.) Here Employment of SOF units would be inappropriate as well. Depending on the international situation, the 82nd Airborne or 101st Air Care divisions might be earmarked for or committed to a contingency elsewhere and their units not available. Or, units of neither division might be suitable by area doctrine and training for the specific anti-proxy mission.

In these cases a different kind of unit is called for -- the light infantry with the characteristics outlined in the basic study. For future LIC the Army might require up to ten LIC regiments. However, it is imperative that an LIC test-bed unit be established to exercise the concept.

The test-bed unit might be as large as a standard U.S. Army division, but would have a very different organization. One should consider whether the test-bed organization should be conceptualized as a "division" with assigned regiments. Today's division might be too ponderous and ill-suited for fast-moving LIC.



Light Infantry Brigade Missions

- o Command, control, training and operational planning for assigned units.
- o Tasks assigned battalions for environmental specific or advanced individual and unit training
- o Prepares and tasks assigned battalions for region-specific deployments
- o Coordinates plans with FORSCOM and regional major commands for peacetime and wartime deployments (some plans require attachments of SOCOM units).

APPENDIX C

UNCONVENTIONAL WAR AND THE UNITED STATES ARMY

PREFACE

This paper is essentially an outsider's perspective on the nature of unconventional war. Most analysis, on which conventional doctrine is based, comes from the military, past or present, and is often shaped by its participation as a defender of the center. Analysis that leads to revolutionary doctrine or explanation is also based on participatory experience as a rebel in a special arena. The conventional side is often concerned with tactics and the rebel with politics and both have special positions to defend. For twenty-five years I have been a largely disinterested observer of revolutionary wars in Africa, the Middle East, and Europe primarily concerned with the means - techniques, tactics and strategies - by which militant rebels, of whatever persuasion, fashion their campaign. Only incidentally have I been concerned with the view of the threatened center. And the view from the outside, the rebels' side of the hill is, not unexpectedly, "unconventional."

I. The Nature of Unconventional War

(1) Introduction

There is general acceptance that "unconventional" wars are, indeed, unconventional -- they do not abide by the rules, the conventions. In point of fact, this is hardly the case. Unconventional wars in the accepted sense, regular troops opposed to irregular guerrilla or terrorists, have produced a considerable body of doctrine founded on experience in the field.

An unconventional war under whatever title (national liberation struggle, insurrection, terrorism, rebellion, national resistance, guerrilla struggle) reveals one side as dependent upon a traditional, overt military organization defending the center, seeking stability and the other side as radical militants covertly organized, seeking change through violence. The radicals, who may be of the Left or of the Right, who may be motivated solely by simple nationalism or possessed of a messianic religious vision, but are an army of true believers not a true army. They depend by necessity as much on spirit, popular support, perceived grievances, the opponent's character as they do

on their own ruthless "military" operations. Their conventional opponents depend largely on the exisiting military system and traditional deployment. They may be tempted to borrow their opponents' irregular tactics or fashion special forces for special tasks but they remain an army.

At times such irregular conflicts are all but beyond the capacity of the conventional military to cope - the radicals are too few or too hidden or even too unimportant to warrant military consideration. For years there have been attacks on United States military personnel and facilities in Germany by members of terrorist organizations. As a campaign of terror, as far as the United States military has been concerned, it is a marginal matter, best left to the German security forces. All that can be done is take certain conventional security precautions. The British have for over a decade faced a far more serious challenge in Northern Ireland but not one that seriously threatens the integrity of the United Kingdom or major national interests as seen from London. The British army's commitment to the province has been but one aspect of London's continuing but often erratic response to IRA violence and the militant Unionist backlash. In a sense the Irish Troubles have been a classic case of low-intensity conflict that has become all but endemic, a long war that may end only when Britain changes its

priorities or the Irish their aspirations. The Russians in Afghanistan, too, have wandered into a classic unconventional conflict attempting to maintain an imposed regime against a national liberation resistance fueled by religious conviction. In a sense because the war in Afghanistan is so typical of traditional guerrilla wars of liberation against an occupying power, the Soviet military response is more conventional and more important to the imposition of "order" than that of the British army in Northern Ireland. The Soviet army can deploy its forces as an evolving doctrine demands without the enormous non-military concerns that limit the British in Ulster.

Why there are unconventional rebels at all cannot readily be explained as the result of multiple conspiracies or even postulating the rebellious nature of man. Essentially, when a group sees what are unacceptable conditions, grievances so great to make normal life intolerable, yet lacks the power for swift change (a coup) or conventional force (a civil war), their only apparent alternative is to opt for unconventional means. The unacceptable conditions may vary enormously - the daily humiliation of the color bar imposed in African colonies by Europeans, a radical non-Islamic government imposed in Yemen by force of Egyptian arms, the suppressed demand for self-determination in the Basque country of Spain, the corruption of the Italian center, or taxation without representation. As long as the

grievance is perceived as real by many, as long as a militant core will seek recourse in violence, and as long as there is some chance of ultimate victory, conditions are ripe for an unconventional conflict.

These condition as somewhat easier to parse in retrospect for most unconventional struggles erupt when not truly expected. The British, for example, from Palestine to Northern Ireland, no matter what others saw as the tides of history and the end of empire, were surprised at each insurrection. Cyprus, Malaya, Kenya and Aden were all surprises. Yet when the necessary conditions exist, an unconventional conflict is possible. And presently there still exist denied nations - nationalism still the key motive for violence, messianic ideologies, occupying armies in an era of neo-imperialism, and brutal and inefficient tyrannies. When the militant core will embark on an armed struggle is almost always unclear, but in much of the world, the answer has been sooner or later. Only absolutely brutal and efficient tyrannies like Russia and open successful democracies without nationality problems like the United States have so far been immune. Elsewhere the list of unconventional conflicts being waged at present is long indeed.

(2) Aspects of Unconventional War

All unconventional wars are different although some are more different than others. What such conflicts share has not been of great use to those who must fight them; yet every effort has been made to fashion models of (if not what has happened) what should happen if certain strategies are followed. Special attention has been given to intensity, levels of violence, stages of escalation or diminution, on one hand, and the implications of non-quantitative factors on the other. Some count bodies and others weigh the spirit, the former is not always the main concern of the conventional nor the later of the rebel.

Spectrum of Intensity (Quantitative Factors)

Over the past generation, doctrines of revolutionary war and anti- insurgency have proliferated. There is a library on the successful coup, on how to fight the guerrilla, on the steps toward national liberation. In theory it should be possible to examine any unconventional war and discover who is winning or losing, what stage has been reached, and perhaps how to change matters. Most radical revolutionary theories of unconventional war arise from the experience of the Chinese communists as examined in retrospect. There are various stages; the revolutionary goes from one to the other - and sometimes

backward for a time - from the original small cadre through liberated zones to victory in a conventional confrontation. Some subsequent conflicts, Vietnam, more or less followed this pattern. Others, notably Cuba, did not. A generation of Latin American revolutionaries unsuccessfully tried to learn the Cuban "lesson" - the most disasterous being Che Guevara in Bolivia who reduced all complexities to the need to begin a foci of rebellion (a practice he knew had failed elsewhere). And even after the struggle has begun, most models have trouble fitting over reality; and few are of great help to the participants. What stage is South Africa in presently or the IRA or Savimbi's Unita in Angola?

It is equally difficult to quantify success or failure in such a campaign. A body count, if accurate, may tell little about the bodies or their loss to the rebels; just as the casualties of the conventional may not be relevant to the ultimate outcome. One can count the number of weapons lost or found, the number of bombs, even the votes in a mid-campaign election, but the results seldom add up to a very clear picture available to all. Quantitative analysis may be effective - but by that time the course of the campaign is obvious; in December there were no terrorists incidents or in January another five thousand British

troops were evacuated or, in February, tribal leaders met with the commissar. Certainly, counting tells something about the intensity of a campaign - there are not a lot of dead bodies in low-level wars even if wars have important strategic implications - Palestine or South Arabia - and there are a great many in others Cambodia or Madagascar with limited strategic implications.

It is not so much the theories, with or without counting, that indicate the intensity of the campaign as the actual practice. A relatively low level of violence, as counted, in practice may engender a very high level of response. This was the case in Germany with the RAF and September 2nd terrorists even when the violence was at the lowest level of anyone's model of unconventional war. A specific case would be Ireland where the most detailed quantitative analyses exist and after nearly fifteen years of extensive experience to model. In fact the IRA's present campaign is an excellent example of the difficulties of using figures and models to affect or to learn much from the level of intensity. At various times, the IRA has been organized for a variety of purposes with varying effectiveness. From 1969 to 1971, the IRA evolved from a growing Catholic defender group to a underground militia. From 1972 through 1973, this militia became a secret,

guerrilla army that even controlled No-Go (liberated zones); then from 1974 until 1978 the IRA had dwindling military assets but by 1978 had reorganized in a cell structure- and had settled down for a twenty year war of attrition. In Ireland it has been possible to examine bomb levels or incident levels, election returns, demonstration size, count bodies and confiscated guns; but the shifting levels of intensity have made little difference in the perceptions of London or in the necessity for the British army to soldier on in Ulster. In unconventional wars the spectrum of intensity should be of less interest to those concerned with the outcome than matters of implication.

Spectrum of Implications (Qualitative Factors)

In an unconventional conflict, is is not only difficult for those involved to determine what is really happening but also who is actually winning. A revolutionary communist, for example, is inclined to analyze events within a theoretical Maoist-Giap framework - somehow the war in Vietnam never quite seemed to follow the model despite much theoretical adjustment. What remains important is the perceptions of those involved concerning the implications of winning or losing. Perceptions are simply (and often) not very important in conventional war. After the German invasion of Russia in 1941, nearly everyone could tell who was winning

or losing and what would be likely to happen in each case. Theories did not matter very much in a war of big battalions. In unconventional wars, how the opponents feel about such matters is of great concern. In 1948, over 100,000 British security forces withdrew from Palestine because of perceptions of British interest held by the governments in London; they were not driven out. Once in a while the weaker can become the stronger and win conventionally as in China; but mostly on a strategic level, decisions to continue, to escalate, or to withdraw are based on perceptions.

An unconventional campaign may suddenly escalate and become vastly important to the threatened. From time to time the United States government has perceived a Cuban theat to subvert Latin American governments - often with good cause, often with less reason. The British were often inclined to see any armed threat to the Empire as part of an international communist conspiracy. Any unconventional campaign might gain immediate strategic significance if the rebels/terrorists/guerrillas could vastly escalate the conflict. Everyone would consider the German Left of the IRA a most serious threat if there was a chance that they might go nuclear. Even

the addition of surface-to-air missile in Northern Ireland or Afghanistan would shift not only the reality of the conflict but also the perceptions of the threatened. New weapons (conventional or nuclear or chemical/biological), new allies, new wins or losses elsewhere, all could shift perceptions. On the other hand, exhaustion, domestic dissent, or high casualties could persuade those involved that the sacrifice was not as vital as once thought, that the neighboring states were not vulnerable dominoes (or not a vital concern) or that the liberation of the nation was not inevitable this decade.

What is important about tactical investment in the arena, which each side can count, is how the shifting level of intensity is perceived. Basically the rebel almost always attempts to escalate the conflict (whatever the model) and erode the existing institutions. The conventional military seeks to stabilize the arena and protect the established institutions. At times, of course, such institutions may have to be fashioned in the midst of the war. While escalation at least may be visible in body counts or bomb incidents, it is perception that matters. Nations like Israel may feel enormously threatened by what are easily tolerable incidents. The Italians may be able to tolerate a level of terrorist violence inconceivable to the Germans. Some considerable areas of the Third World have never been controlled from the center - revolutionary foci might flourish for years

without anyone noticing. The result is quite different tactical investments in an unconventional conflict based on the perceptions of strategic implications. This is true for both sides - if escalation kills too many guerrillas, the next stage of liberation can wait unless the ruthless decide that it is worth the cost. In conventional wars, perceptions do play a part in strategic decisions and tactical investment, but much less so than in unconventional wars. At times, it seems that almost every factor in a low-intensity conflict is more important than in conventional war except the actual fighting which is less.

(3) Arena Content

In real war, the arena tends to affect both sides more nearly equally. Some terrain may help the defense or a friendly population may or may not be an advantage or the weather will work against the mobile. In an unconventional conflict the arena factors are often crucial and often tend to weigh heavily for one side or the other.

Geo-physical

The size, nature, and location of the physical arena is often crucial to the struggle, shaping any military action and affording certain assets to one side or the other. A conventional army may have supply lines thou-

sands of miles long. A guerrilla force may have a sanctuary next door. And within the combat arena any conventional military response must be adjusted to the physical features -- the uplands of El Salvador or the lanes of West Belfast. Inhospitable territory need not favor the rebel but usually does. Few unconventional wars are fought on a billard table but even the sand wastes of the Sahara have not restricted the Polisario campaign against Morocco. And neither the arena site nor the physical conditions may be immutable. The IRA moved car bombs from Belfast to London; the United States widened the combat into Cambodia; Israeli raids into PLO sanctuaries have been traditional. In Vietnam the United States defoliations were an attempt to change the physical arena to advantages - just as the Somalis poisoned wells or the British walled off sections of Belfast. While the admonition know your battlefield seems obvious, conventional commanders have arrived (often within their own country) without real intelligence of the physical nature of the terrain - and city folk have gone into the jungle for the first time as guerrilla recruits.

Socio-demographic

Most unconventional wars - even campaigns of assassination by proxy - are proclaimed peoples' wars and hence

by implication, at least, the people are important. In 1940 the German army did not have to worry about the French, only the French army. With the rise of the resistance, this was no longer the case. Over the past generation most unconventional conflicts have been initiated by rebels who assume that they speak for their people even when those people deny their liberators. Too often too few seek to parse the people. Che Guevara sat in his foco learning the wrong Bolivian Indian language so he could bring land to the peasants in the only South American country that had undergone an effective land reform. Obviously most rebels, but not all, live among their own; but then so do most governments. In unconventional wars fought without external aid or involvement, the level of domestic intelligence is much higher. Conventional forces especially need to discover what the people really think, what their perceptions are, what they will tolerate. Without the toleration of the population, rebel operations are difficult, if not impossible, except for swift intrusions into hostile areas from safe bases.

Most governments need more than toleration, need at least a modicum of co-operation so that institutions can be conserved or created. Yet a conventional army can

operate amid a hostile population, much less an indifferent one. For example, in Ireland the British security forces presently operate with relative ease if less limited effect. The IRA is still there but cannot escalate. The potential for a Unionist backlash remains. There is no effective institution building nor great optimism in London. It has taken the British a very long time to learn something of the nature of the Irish (the British army somewhat more swiftly than the politicians), for force was committed into an arena with little intelligence about the people and their society. And in theory Northern Ireland was an integral part of the United Kingdom. When an alien expeditionary force lands in a strang land the nature of the people is even more elusive.

Psycho-political

Even unconventional wars fought in the name of religion are fought over political power - who will control the future. Thus such wars are often seen as too important to be left to generals. The battles must fit the political-psychological context of the struggle. At times it is not who will win or lose but who will suffer the most, not body counts but who really believes they can feel the winds of history assuring certain, ultimate victory.

Unconventional war is more often than not a psychological contest of will waged in part by military means. It truly is about the hearts and minds of people. Generals, thus, are often forbidden to take military steps that seem wise for battle purpose - to escalate or to use counter-terror or to enlarge the arena. They are often denied resources that - for battle purpose - seem vital. They are asked to take risks that seem militarily unwise. Rebel leaders may launch attacks with what seems criminal optimism or persist beyond the point of reason. They may be right - Tet (the battle) was lost militarily but won politically. They may be wrong - the Malayan communists wandered all but forgotten in the jungle for years. And at times victory or defeat hardly seem to matter - for television terrorists an operation is a success once the cameras go - on no matter if the GSG-9 of the Israeli commandos free the hostages, for by then the terrorists have made their point through the media. Thus unconventional wars are violent political exercises depending for an outcome on the psychological perceptions of all those involved. The psycho-political arena factors are the most crucial of all, ignored at great risk by those involved.

(4) Asymmetrical Assets

In the combat arena of an unconventional war the

various factors appear to aid one side to the disadvantage of the other. And each side's assets in men, morale or position are quite different. In fact, the classical unconventional war is distinguished by these two major factors. First, as noted, the arena of the conflict is far more crucial to the outcome than is the case in conventional war. Second, there is an asymmetrical division of assets on the contending sides, the most patent being that the conventional army is visible while the unconventional force is nowhere to be found.

It is relatively easy to list and match the assets of the Warsaw Pact vs. NATO (so many men of such a quality, so many tanks with varying capacities) or the British-Argentine forces deployed during the Falkland crisis. Usually past records, present quality, and special considerations can be factored in (Israel quality vs. Arab quantity) to arrive at a relatively sound basis for comparison of conventional force levels. There are even models that award so many points for various factors, from winter fighting to staff structure, so that the assets can be quantified to several decimal points. In unconventional conflicts, matters are somewhat more complicated. One side has all the tanks and the other no planes. Psychological factors may prove crucial where they would be incidental in conventional main-force conflict. And when assets shift, the whole nature of

the war may be transformed. In 1953, Ho Nguyen Giap had no artillery pieces but in March 1954 he had over two hundred dug in around Dien Bien Phu unknown to the French. When Giap opened fire on March 12 his irregulars had become regular; the French were fighting a conventional siege with fewer assets than Giap. The nature of the October War remained the same even when the Egyptians proved to have a hidden asset in the Soviet missiles that denied for a time Israeli command of the air. In most unconventional wars, however, the asymmetrical assets remain until the end of the emergency is declared or the flag over the president's palace changes.

Technology

The levels of technical sophistication almost always favor the regular over the irregular (jet-delivered smart bombs against rifles). Yet the deployment of hi-tech weaponry, whether enhancing mobility or intelligence or battlefield communications, because of other factors, may be of limited value. Despite all its technological assets, the United States found it difficult to project power as far as Teheran during the hostage crisis because of arena conditions. Despite the night-scopes and listening devices and computer banks, the British still have not pacified the IRA bandit counry in Ireland. In a sense the

world's best fencer need not fear the second best but the unorthodox sixty-fifth field radar can be confounded by an IRA-prodded cow or a television set on a long flex. Despite everything, the Ho Chi Minh trail worked with bicycles. A match may be a guerrillas best friend and a tank of little use in a swamp.

Force Deployed

The levels of force on each side usually vary greatly in unconventional wars. The conventional army may be very much smaller as was twice the case in Congo-Zaire or be very much larger as was the case with the British in the Palestine Mandate. Presently in Ireland a very small number of active service, full time IRA volunteers hold down large security forces. Usually the closer the force level the more conventional the war (Tet was almost a set piece battle albeit in an unconventional arena as was Dien Bien Phu). And more - for either side - may not be better. EOKA felt that the more British troops on Cyprus the more targets. Often there can be a guerrilla overload when an unconventional force grows too large and vulnerable - as did the IRA by 1974. What is nearly always true is that one side is much more numerous than the other.

Conflict Organization

No matter how many special forces are deployed or special missions undertaken, the conventional army is an army and so organized. When revolutionary armies are fashioned as armies (China), they by necessity act like armies and fight conventionally. Irregulars, however, may be organized as a party or in military cells or in tiny terrorist action groups attached to an overt party or as a hidden militia or without full-time members - or any number of non-conventional ways. The "structure" may have military names and ranks,but often more closely reflects existing social or political parties' structures: the EOKA as a Greek family led by father Grivas; the IRA as a mix of a lay order and a street gang; Italian communist resistance as an extended family; or the Malayan rebel "army" as a Chinese communist. None are or were an army. Even when "irregulars" act for conventional states, they are organized as an extension of the conventional. The SAS in Ireland is an irregular unit with special missions but still part of an army opposing the secret army of the IRA which is not an army at all.

Political Commitment

The level of political commitment is almost always higher on the irregular, rebel side. They fight for the future not to protect the present arrangements. They

volunteer largely for political reasons not to make a career. Conventional soldiers may have superb morale but little interest in "the issues"; the irregular without prospect of pension or promotion, without uniform or awards, risks his life not for an institution or a friend or distant national interest but for a cause. Conventional officers may be very concerned with that distant national interest but their prime purpose is military. It is difficult for a conventional army to weigh each task for political content, but it is crucial that the irregulars do so. Each tactical act, in some cases, is weighted politically - kill one, teach a thousand. In point of fact, the political content may well be a handicap - operations according to the book of Mao in Asia or operational planning in Europe that gobbles up enormous amounts of time in reaching a consensus. This difference in political motivation becomes even more pronounced if the conventional force is not indigenous, i.e., if it is fighting abroad for someone else's cause.

Popular Support

Popular support within the arena of the conflict varies greatly. The unconventional always claim, often with justification, the support of the people; after all,

they have very few other assets. The conventional side may do as well but, with the big battalions to deploy, may need it less. At times the conventional side may have polarized majority or minority support - the Brigate Rosse speak for people that deny them, EOKA could count on the Greek Cypriot people but not the Turks, some Latin American military dictators can count on the elite but not the inarticulate masses often claimed but seldom delivered by the rebels. Usually the irregulars can count on the toleration of their avowed constituency; if not, as is the case in Germany and Italy, the "terrorists" find recruitment and replacement difficult and momentum hard to maintain. If so, as in Ireland and the Basque country in Spain, a war of attrition is possible. On the other hand, if the forces of the conventional are overwhelming, the predictions of the populationa in question hardly matters as is the case on the occuped West Bank or in Poland.

Perceptions of Contrasting Assets

Both sides are, oddly enough, likely to over estimate both their own assets and those of their opponents. Conventional armies often express a contempt for their

"unmilitary" opponents (brutal, cruel, terrorist criminals, thugs and mad bombers) with an atttraction for their perceived freedom form restraint. The conventional feel that an irregular war awards the rebels special assets: they need not wear uniforms, we must; they can retreat across borders, we cannot follow; they can torture, we cannot; they must be captured, tried, convicted, and imprisoned, we are shot in the back. In point of fact, the irregulars have their own problems. Without uniforms they may be hanged for murder. Without the power to hold liberated zones, they are forced to flee. Without courts or police or the leisure of secure facilities, they must maim offenders or extract swift confession from informers. Their view is that the conventional have all the assets: the big battalion, the well-fitted hospitals, R&R for the troops, the capacity to make the law, overt legitimacy - everything except the righteous cause. Both in a sense would like to wear the others' clothing while keeping their own.

Then, too, the real assets of the conventional and the unconventional are over-estimated. Most unconventional wars are initiated by leaders abounding with almost vast optimism who deny, often decade after decade, the plain

evidence that ultimate victory may not be inevitable. Sooner or later the masses will rise, the rules of history apply or the spirit triumph. On the other side of the barricades surrounded by tens of thousands of well armed troops, shipped from place to place by helicopter fleets, supported by artillery, reinforced at will, opposed by rag-tag terrorists, it is hard for the conventional to recognize that visible military strength is but one aspect of conventional war. Thus each side is inclined to assume they have more special assets than the opponent - but long for the others' anyway, no matter how dangerous this may be. If the conventional resort to irregular means, they may erode the legitimate assets of a normal, recognized army; if the unconventional choose to act as a "real" army prematurely, they court military defeat in a conventional confrontation.

(5) Summary

In brief, what is unconventional about low-intensity warfare is that so many non-military factors play a disproportionate role in the ultimate outcome. Unconventional wars can be, but are not always, won by the deployment of simple brute force. This was the case in Budapest in 1956 or Lebanon in the summer of 1982 when the unconventional side was too weak to fight a conventional war and unwilling

then to continue what was seen to be hopeless irregular struggle. More often, even when the military thrust is the major one - as in the Mau Mau emergency in Kenya, parallel political initiatives are made. Thus the context of the war is crucial when an asymmetrical struggle is waged by various means to win a victory by transforming the perceptions of the opponent. In this, the emphasis that the unconventional place on matters of spirit on qualitative factors, on grievance and justice, on the lessons of history, is largely justified. Unconventional wars are very much wars of perception.

II. Threats, Vulnerabilities, Opportunities

(1) Threats

In the Four Worlds of today, West, East, Developing, and Undeveloped, no area is safe from the threat of destabilization by unconventional means. Some states seem secure but their allies may be vulnerable. At the other end of the spectrum of security, some tyrants control little but the presidential palace. No one is entirely safe. Rich, open Western democracies have nationality problems or attract ideological bombers who have no visible constituency. The brutal, efficient regimes of the Warsaw Pact cannot predict when sullen discontent

will explode into what has so far been hopeless revolt. Presently there are dozens of serious rural insurgencies involving much strategic real estate, many crucial resources, and also barren wastes. Russia attempts to crush an insurrection in Afghanistan, Cuba in Angola; Vietnam in Cambodia; and the United States in Central America. The number of international terrorist groups runs beyond a score. Unredeemd nations engender guerrillas. Some seek liberation of "nations" they have never seen (South Molucca) or simple vengeance for an old atrocity (Armenians). Others like the Palestinians fight their battle far from the homeland. For those concerned with unconventional means, the present - and one assumes, the future - offers ample examples for analysis.

In a sense, all these little wars, and most are little, would be of scant importance but for the present global power balance. No gunman is so obscure that he may not be endowed with an importance beyond reason because of his real or perceived strategic significance. Barren African wastes, Asian jungles, or countries that few could find on a four-color map become counters or dominoes or arenas for great power conflict. And enormously valuable natural resources lie under fragile states or truly signigicant choke-points are tenuously

held by primitive elites. The single greatest factor of global strategic competition is the East-West confrontation of the United States and the Soviet Union. It is Moscow and Washington that weigh the significance of the gunman, of the opportunities in the deserts and jungles. Mostly the competition is perceived as a zero-sum game in unconventional wars - what is bad for Cuba and Russia in Angola is seen as advantageous for the United States and what Washington loses in Central America accrues to Havana and Moscow. Beyond the toting up of shifting strategic advantage, the conflict between Marxist-Leninist communism and democratic-capitalism is reflected in any struggle for political power. No matter how compelling local considerations, the special arena factors, the impact of individuals, nearly all unconventional conflicts are seen by the West and by the East as threats or opportunities. Thus the West perceives, not without reason, that Moscow, alone, through allies or by the manipulation of proxies, will seek to exploit existing instabilities and initiate new ones if such a strategy will erode Western power and thus enhance its own.

If the appeal of orthodox communist ideology has become threadbare in much of the world except as an "explanation"

for repression by elite regimes, this is hardly the case with other ideologies of change. Some like that of the RAF in Germany of the Brigate Rosse in Italy purport to outflank Moscow or Peking on the Left; others like the neo-fascists in Western Europe are an expression of nostalgia for a past few remember directly. Perhaps more significant has been, after a generation, the revival of militant Islam in various forms. In Iran, it sparked a mass movement and a national revolution while, in Egypt, descended from the Moslem Brothers, it inspired the murder of President Sadat. Islamic millenarism may not be a threat to Western interests alone but so far this has largely been the case. It is and will be an especial threat because the target regimes are not only fragile but also control much of the West's available petroleum reserves or strategic real estate in the Middle East and Africa. And finally, of course, nationalism of all varieties when denied, as some must be, is always a powerful force for radical change. Some of these ideologies can harnass conventional forces, like Iran. Others will seek unconventional means to achieve their ends. Few of the dedicated will deny themselves recourse to violence - and certainly the enemies of the West will manipulate the rebels when possible.

Despite the dearly held wish of optimists that grievances need not lead to violence, that compromise and accommodation is possible, this hardly seems the case. The aspirations of some deny those of others. Even modest concession to some schismatic nationalists risks the collapse of artificial states or a backlash of conservative defenders of the inviolate nation. The Kurds, the Palestinians and the Irish put at risk the nations of others. Then, too, beyond the nation there are a wealth of legitimate grievances: the aspirations of the Africans in South Africa, the poor and deprived everywhere, the minorities. There are demonstrable tyrants, "nations" ruled as family businesses, and regimes representing tiny elites. With or without East-West involvement, with or without the inspiration of an ideology, there exists the reality of actual grievances sure to instigate militants using unconventional violence - and at times, no matter how decent their cause, against perceived Western interests.

The global arena that, thus, encourages violent dissent is dominated by two apparently contradictory factors. First is a world rigidity. The East-West confrontation has lasted for a generation in one form or another. The post-imperial states system has shown little

change. There has been no general war that would allow the ambitious to manuever. Borders are frozen. Attitudes are frozen. Despite all the discussion of a new economic order, there has been little change. The rich have gotten richer and the poor poorer. When there have been changes - the great oil revolution - little has really changed for the most part. Simply because the world has been so stable and for the established so comfortable, the denied are driven to violence. The RAF attacked the Raspberry Reich because of the economic miracle, because Germany was a success. Yet at the same time, there is a world flux. Regimes are illegitimate and unstable. Dictators of various flavors come and go. The Marxist-Lenist world is harldy exempt - Hungary, Czechoslovakia, East Germany and Poland. Terrorists move with ease by trans-continental jets capturing the global media. New nationalisms appear, new cadres of violence, and the old causes and creeds resurface. In Europe the new ideological gunmen and the old nationalist bombers are joined by proxy assassins, murderers out of the Middle East, transnational terrorists for hire with a slogan. In the Third and Fourth worlds the guerrilla is endemic. In order for the militants to change the present rigidity of the global system, a global arena in flux allows ample opportunity for unconventional warriors. And such warriors for their own purpose or for others may, and often do, pose a threat to Western interests.

Thus a geo-political arena exists where actors can best achieve aims by unconventional means. These actors may be co-opted or encouraged to policies that are directly beneficial to America's Eastern enemies or simply to America's disadvantage. A state in turmoil, like Iran, may seize hostages. Even the weakest regime, like that in Aden, may encourage terrorism in the heart of the West not to mention next door in Oman. The Iraquis and Syrians, kill each other in Paris. The Palestinians are everywhere. Even without a KGB connection or Moscow center, there will, in the future, be ample unconventional threats to American interests.

(2) Western Vulnerabilities

The deficit side of open, democratic societies is that freedom permits subversion by the unconventional. In America nearly anyone can purchase a gun without difficulties, explosives without license, a car with stolen papers, drive two thousand miles without hindrance and appear on investigation quite normal. To a lesser degree, the same is true in much of the West. And swift, inexpensive air travel has turned much of the world into an arena for terrorism. Much more important in matters of unconventional threats, open societies can rarely close down to advantage. The British

discovered in Northern Ireland that internment without trial caused more difficulties than it solved. While there can be improved security measures -- anti-hijacking devices or adjustments in the legal code -- open societies, even ones under great pressure like Israel, remain open. A few, like Uruguay, collapsed under terrorist pressure. This means the subversives can and will take advantage of the system. And the most important aspect of that system is that those responsible for national security, for the commitment of troops to allied causes, for the extension of power, are responsible not simply to the government but also to the population at large. There is a constant, open accounting, and almost always criticism.

American and Western societies are not only open but also technically fragile. Politically and socially Western societies have shown great resiliency, but the technological aspects of life may not be as flexible. The great New York blackout, the incident at Three Mile Island, the loss of sound on the Carter-Ford television debates indicate such vulnerabilities. More to the point, a very few men with the proper tools can cause a disproportionate impact - a few poisoned Israeli oranges and the export market was

ruined, a few Tylenol capsules tampered with and a product nearly destroyed. And these are tiny matters. There could be really serious nuclear or biological or chemical threats. A few ground-to-air missiles could play havoc with domestic air travel. There are in fact a distressing list of danger spots: LNG carriers, the Panama Canal, gateway satellite receivers, off-shore oil rigs, embassies, pipelines, public figures, national monuments, legislative assemblies, nuclear facilities, computer banks. And they cannot all be protected perfectly. This might not matter greatly if all future unconventional wars were to take place in low-tech societies - although even there the military would be a high-tech institution, but this can no longer be assured. And even in developing countries, the prime targets would be hi-tech like the electrical grid in El Salvador.

As far as targeting is concerned, the distinction between developed and non-developed societies, between wars in the outback and terror at the center, has been eroded simply because of the advances in global communications. The developed world has been opened up to the parochial, to the local prophet. Terrorists know to time their massacre for prime-time on the Eastern coast. Guerrillas know that a good interview or a spot on 20/20 is

worth any number of ambushes. It is rare that an event like the siege of Mecca takes place in isolation; the more sophisticated see to that: Sadat's murder on tape or revolving door interviews in El Salvador. It was thus possible to see a great deal more of the photogenic war in El Salvador on American television where the journalists seem to outnumber the guerrillas than to catch a glimpse of a real war in the Falklands. And the Israelis discovered in Lebanon that fighting a war on television presented other problems than those they had faced in the Sinai or the Golan and ones that they did not handle especially well. Now the far places come into every home and with the advent of disc antennae this may be true to an even greater extent in closed societies.

If the audience for unconventional war has grown, the continuing problem of those distant, parochial wars remains - only more visible. Many of those distant unconventional wars have and will involve associates and allies less attractive. A tyranny dependent on torture and repression dominated by an unsavory elite may still possess strategic position or natural resources that must be at the disposal of the West or at least denied our opponents. If "our" dictator could be supported quietly, at a distance, this would not matter as much; but this is no longer the case. That there are equally unsavory communist tyrants

is immaterial - there is a double standard in international affairs and what is permitted in the name of the revolution in Mozambique, or even Tanzania, would engender outrage if adopted by a Western nation. While this may be a compliment to Western ideals, it means that our alliances and alignments with the imperfect will remain a vulnerability - most especially at home where such sin is more easily detected than distant complexities.

One of the aspects of this vulnerability is that, with the end of empire, necessary resources, cobalt or oil or Indian Ocean ports, are beyond direct control. Certain of these, oil and gas or the Panama Canal, are crucial. Others must be denied an ambitious opponent. Some can be forgotten with equanimity. None, however, can be controlled quite as directly as might be liked. And always there is the prospect of subversion because of local and often justified grievances.

Thus, the West is an open, hi-tech society, vulnerable to disruption at home, while involved in maintaining interests abroad with limited means before a world audience. This has been the case for a generation and there seems little prospect that the threat will ease. The transnational terrorists may not go nuclear -- but they might. Subversion in Italy and Germany may lessen -- but begin in France. There may be no sudden campaign of maritime

terror -- but there might. There surely will be distant regimes under threat of subversion that will require a calculated military response. There will be unsavory alliances and alignments, real conspiracies, even proxy wars and bombs in the barracks. And through all the threats may not materialize, a response to the challenge must be prepared in any case.

Opportunities

Some of the "threats" may also present opportunities. There also may be attractive opportunities in the vulnerabilities of the West's avowed enemies.

While the Marxist-Leninist world does not have some of the same vulnerabilities as the West, there are in some cases similar ones. Thus Russia is also an advanced society filled with soft technological targets. The fact that it is a "closed" society does not change the technical nature of the targets. The fact that the Warsaw Pact nations are closed makes their regimes' stability more brittle. In the West there is a popular toleration for the truth on the nightly television news. Events in El Salvador can be seen and discussed and American policy adjusted if need be but what if global disc communications came to Russia? And the Soviets, too, have the problem of unattractive associates and vital areas beyond direct control not to mention the Chinese threat that drains away resources and concern. And other proclaimed Western

enemies alone or in association with the East have even more striking vulnerabilities: Cuba is a remittance state; Iran in turmoil, Ethiopia wracked by schismatic wars; Libya populated by bedouins with too much money; and Vietnam bogged down in Cambodia.

There are, then, the limitations of American rivals - their vulnerabilities. Their friends are often brutal, inefficient and illegitimate. Their subversive parties or purchased terrorists are unrepresentative, suspect - and for Moscow's purpose often unreliable. The exported economic system obviously does not work very well - in the Third World the great attraction of Marxist-Leninism is that it supplies an effective means for an elite to maintain control without recourse to a military dictatorship. All the rest of the workers' and peasants' rhetoric is often just that. Although the Russians can manufacture and export first-rate military equipment, at times accompanied by unpopular instructors, they cannot supply an effective political-economic system that will aid in achieving the avowed aims of most developing governments, much less most post-industrial societies. As a result, various governments have decided the burdens of a Russian connection outweigh its benefits. In the Middle East the Soviets have come to Egypt or the Sudan or Somalia and gone. They cannot stay friends with both Iraq and

Syria. They have been ineffectual in aiding the PLO. In combat with Western equipment the Israelis chew up their equipment. If Iran has been an American "loss", the Islamic revolution may pose a greater therat to the Russians than did the Shah. Libya is ruled by an erratic fanatic with more planes than pilots. And even in the Communist heartland Polish events and the recollections of previous disorders indicates all is not well.

Great advantages naturally accrue to free, open, rich democratic societies advocating an ideology that reflects reality instead of serving as a patina for institutions of control and repression for bureaucratic elites ruling in the name of the people. Although the United States may feel compelled to become involved in an unconventional war for overriding strategic purpose, the Marines are seldom sent in to protect United Fruit. Obviously Washington would prefer that our friends in the combat arena be legitimate, respectable if not democratic - we have self-imposed human rights restrictions. Thus at times, at least during wars of perception, the United States may have much more to offer the people than a well-trained national guard or more military equipment. Things alone won't win peoples' wars and increasing things are what Moscow has to offer.

III. The Problems for the United States Army

Traditional Military Challenges

The American army has had a long history of involvement in unconventional wars beginning this century with Aguinaldo's insurrection in the Phillipines (previously an ally and then an opponent) and continuing presently in Central America. Like all conventional armies in irregular situations, some of these problems are amenable to solution and others probably never will be. At least in certain cases, once the assumption is made that American military power will have to able to be extended, conventional precautions can be taken as in the case of the RDF and recent maneuvers in the Middle East. No preparations or precaution can do more than ameliorate certain difficulties; but as the British revealed in the Falkland's campaign, they can go a long way: proper, prior planning will be crucial.

Special Forces

The integration of special forces into a conventional army has always been troublesome. Special forces are simply special, their personnel often fitted ideally for a deep penetration raid or the command of small units but not for conventional assignments. And when the force is larger -

and more visible and attractive - the best may volunteer, draining off talent from the conventional. Military authority has long been uneasy with elite-special units (especially when sponsored by high-level political patronage) and yet no alternative exists. It is difficult to rotate regulars through special units (although the British SAS is composed of seconded volunteers), difficult to persuade commanders to accept regular assignments, even difficult to keep the force effective during tranquil times. There will be a continuing problem in institutionalizing the irregular as well as fashioning the units for unforeseen challenges yet Delta or Special forces or the Rangers are necessary and the problems secondary.

Mixed Forces

If a particular irregular challenge arises and no appropriate special force exists, a mixed-force must be created with all the ensuing inter-service problems. Equipment may not mesh, standard practice vary, even the language of command differ despite any number of grand manuevers in the past. These inherent difficulties were obvious in the Teheran rescue mission and would be multiplied in an even more unconventional challenge.

Almost certainly any mixed-force in an irregular war will involve a whole range of government agencies, not least in the intelligence area, so no matter how desirable one-service responsibility may appear the odds are against it.

Allied Co-operation

The United States army might be involved in no more than training a friendly power's force or making a small commitment to a peacekeeping force - and there are manifold problems in each, but as the spectrum of numerical intensity increases, all the problems of inter-allied co-operation, almost certainly with non-NATO forces, will appear. If after a generation there are NATO problems, there will sure to be more intense ones. The Sinai peacekeeping force, little more than a trip-wire, was composed of troops from the United States, Australia, New Zealand, Britain, Italy, France, Columbia, Uruguay, Fiji, the Netherlands and Norway. Suppose the 2,400-man unit had a combat mission under United States Army control?

Novel Tasking/Uncongenial Missions

The Teheran rescue operation was novel mission but congenial, all the forces concerned professionally and personally were committed to the effort. This may not always be the case - the United States Army, much less the

Marines, are seldom trained for peacekeeping missions (the Irish in South Lebanon do not fire back when fired upon - that is not their mission; the French do, that has been their experience). What is most likely would be a novel task requiring in part an ad hoc response - retrieving a nuclear weapon in an unlikely spot - that will increasingly be made uncongenial by interference and restrictions of a non-military nature. And because of the nature of unconventional wars, there is little that can be done and such interference may, indeed, be crucial to larger purpose.

Communication and Control is naturally everywhere in war a crucial problem unsolved by technological advances. What is particularly troublesome in unconventional war is that any military initiative may have enormous political-psychological repercussions. Even the smallest act - the carrying of M-16s by advisors in El Salvador - may have a policy impact unforeseen at the moment of commitment. In conventional war it is difficult enough to discover what is happening in the midst of battle and so deploy to advantage; but in an unconventional war, often waged at a distance in alien arenas, the problems are compounded. Technology can help, proper prior planning can help, but the problem is that there is no solution.

Survivability especially in deep penetration in hostile arenas is a paramount consideration. It is a lot easier to get a Ranger force, well armed and with ample ammunition, into the Sahara desert than it is to keep them in drinking water. There has always been a romantic aura about these special missions and special forces (Merrill's Mauraders of the Long Range Desert Group) but in the field such groups almost always need far more aid and comfort than had been anticipated - and small-commitment-big-return may not turn out to be the case. Small groups may cope, live off the land, or simply fail while large scale expeditions can best be handled conventionally; but - almost surely - for the middle-level commitment survivability will remain a problem.

Shifting Priorities are certain. A special task force may be sent into an arena in response to a special challenge that no longer exists or exists under different form. A fighting force may have to administer the areas or supply communications or evacuate the population. The perceptions of the government in Washington may change and so too the mission - this is the very nature of an unconventional war.

Non-Military Priorities will almost certainly predominate since winning or losing is a matter of political perception. While army commanders can always stress their needs and responsibilities, the political center might have others. For whatever purpose President Carter could have ordered the rescue mission to continue with the helicopters available or President Reagan the escalation of American military training in El Salvador far beyond the needs of the government. In Northern Ireland British counter-insurgency tactics are hedged around with political considerations, properly so most commanders agree albeit reluctantly. In South Africa another pre-emptive strike into a neighboring state will be decided almost without reference to military matters.

Political-Psychological Considerations are, then, the crucial problem for an army serving a democratic state in an unconventional war. Political guidance will not always be relevant to military needs. This political guidance in turn will be in large part based on the perceptions of the political center first and the population sooner or later. In the case of the populations, their perceptions will be based on personal experience (the Vietnam generation is very large and may have learned various "lessons" that have very little basis in objective reality), self-interest, and of course the media. The "media" is usually taken to mean television

and its impact on military commitments is hardly benign. Actually the American public receives its information from a great many sources and public perception is not based solely or even largely on the nightly news. In any case, it will be rare that an unconventional war involving the American army can be waged (if that were to advantage) in isolation. The British were - they thought at the time - fortunate in the Falklands to do as they chose out of sight if not mind. The perceptions of the people and of Washington based on the availiable information and on the course of the conflict can be of great comfort - and they can be a considerable problem.

SUMMARY

Essentially the burden of this paper can be summarized in three points:

(1) The world is now and will continue to be an arena for unconventional wars nearly all of which will have some relevance to American strategic interests.

(2) The nature of unconventional war, is quite unlike conventional war. Thus army tasks are largely psychological exercises for political purpose employing military means in a conflict where great value is given to elusive assets.

(3) The United States has had past and successful experience to counter unconventional threats and exploit such opportunities. To do so in the future, the army must recognize the problems that unconventional campaigns will present and hence respond presently with proper prior planning.

APPENDIX D

SOVIET PROXY OPERATIONS

CHALLENGES AND RESPONSE

INTRODUCTION

For the purposes of this paper, emphasis will be placed on the concept of proxy as a mode of strategic maneuver, i.e., the condition wherein a "proxy state" (or other actor such as a terrorist or revolutionary organization) acts as a substitute for another by intervening or threatening to intervene in circumstances which otherwise would involve the patron state (at probably greater cost/risk), and which serves the interests of the patron state in doing so. A proxy is relevant for our purposes only to the extent it has or acquires the capability to intervene and, significantly, that there is evidence it has acted in collusion with the Soviet Union.

There is an important difference in proxy as a classification and proxy as mode of strategic operation. Different uses of the term tend to lead to two different definitions of proxy. For example, when using proxy as a classification, several criteria are relevant. A proxy is a state that substitutes for another in some role, and as the concern here is with conflict, this means intervention. In doing so, it serves the national interests of that state (the patron). But these two criteria, intervention and interests of a third party, are not discriminating enough.

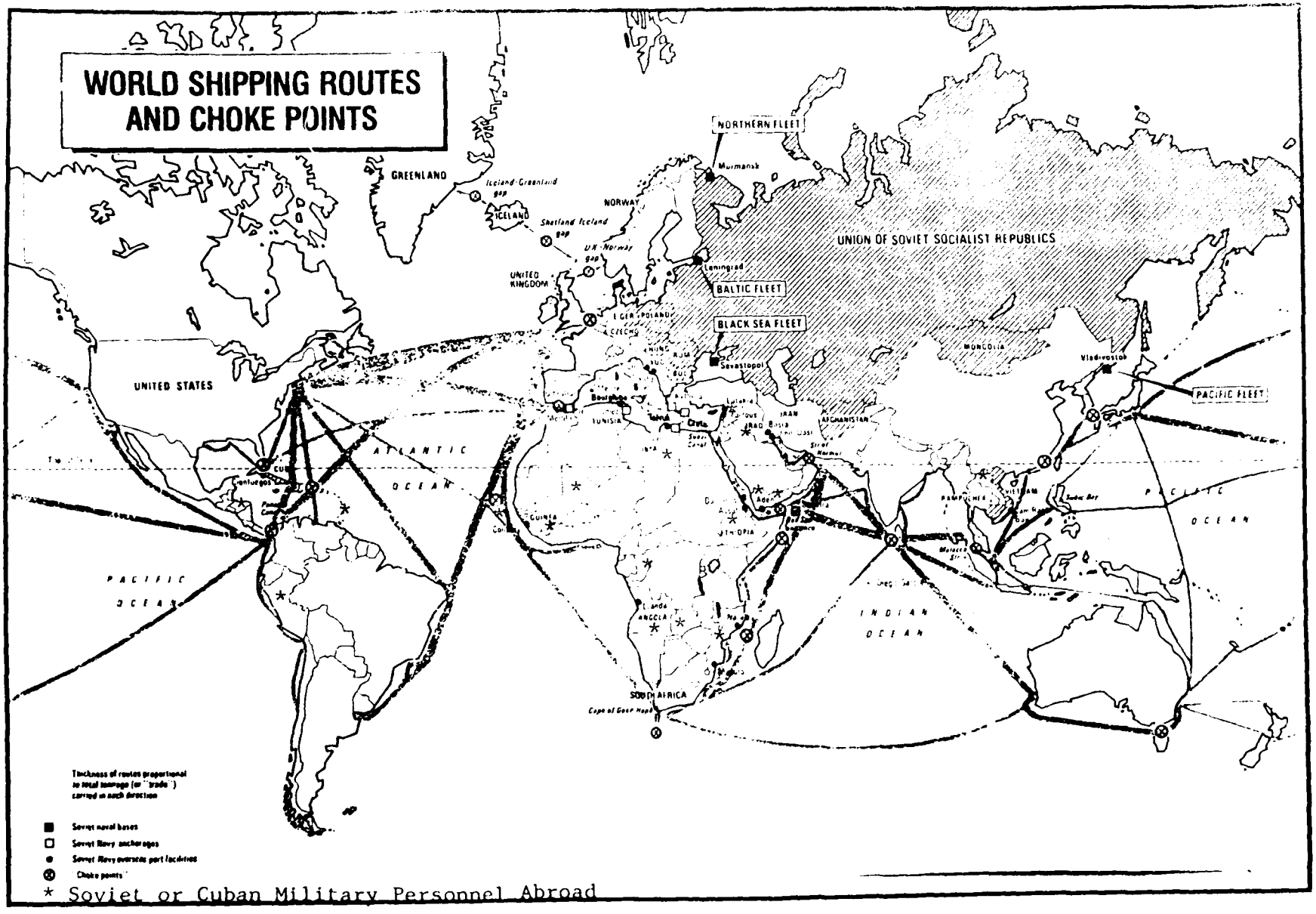
For example, using just these two criteria, Turkey would have to be considered a proxy of the Soviet Union during its military intervention in Cyprus. The result of that intervention was to weaken substantially the southern flank of NATO (eventually leading to Greek withdrawal from NATO and the termination of American access to electronic listening posts in Turkey), which certainly was in the national interest of the USSR. However, classifying Turkey as a proxy of the Soviet Union violates an intuitive understanding of what a proxy constitutes. The missing element in this definition is collusion between the patron and proxy, whether it be simply consultation and approval or outright logistical cooperation.

Soviet intervention by "proxy" and Soviet intervention by "ally" both serve to advance Soviet interests at less cost and risk than direct Soviet intervention, but proxies and allies differ significantly in terms of their institutional arrangement with the Soviet Union. Clearly, Soviet satellite states (Warsaw pact "allies") send military advisors or technicians to a Third World country only with orders from Moscow; East German intrusions can be attributed directly to the Soviets. However, by their very nature, proxies usually afford the Soviets the opportunity to avoid or limit

their association and to place the burden of proof of Soviet responsibility for proxy intervention on those affected adversely.

The Soviet Proxy Threat

As we hypothesized in the KAI overview paper, the Soviets, deterred at the margin from nuclear use and from major conventional attack in Europe, will seek to expand principally in the Third World with a major objective of gaining leverage over the sea lanes of communication vital to the security of the Western, industrialized nations. As a glance at a map shows, Soviet proxy activities in Cam Ranh Bay, Aden, Ethiopia, Angola, Cuba, El Salvador, Nicaragua and Grenada provide hard evidence of the Soviet design to acquire a denial capability over oil and minerals shipping routes. Proxy operations of this nature will be considered by the Soviets to be low cost/low risk operations with high geostrategic payoffs. The costs will be low in terms of political support and the fact that Soviet military supplies will be provided with high price tags. The risks will be considered relatively low because the probabilities of direct conflict between Soviet and U.S. military forces will be low. The geostrategic payoffs can be high, not so much in the context of U.S.-U.S.S.R. naval battles along the worlds SLOC's, but in a confrontation similar to the Cuban missile crisis where the gut issue for all the


WORLD SHIPPING ROUTES
AND CHOKE POINTS
NORTHERN FLEET
Murmansk
GREENLAND
Iceland-Greenland gap
ICELAND
Shetland-Iceland gap
NORWAY
UK-Norway gap
UNITED KINGDOM
Leningrad
BALTIC FLEET
BLACK SEA FLEET
Sevastopol
UNION OF SOVIET SOCIALIST REPUBLICS
MONGOLIA
Vladivostok
PACIFIC FLEET
UNITED STATES
ATLANTIC OCEAN
PACIFIC OCEAN
INDIAN OCEAN
SOUTH AFRICA
Cape of Good Hope
Thickness of routes proportional to total tonnage (or "trade") carried in each direction
Soviet naval bases
Soviet Navy anchorages
Soviet Navy overseas port facilities
Choke points
* Soviet or Cuban Military Personnel Abroad

world to observe will be "who blinks first" in a psycho-political environment where the United States has already conceded strategic nuclear superiority.

Vulnerabilities in Soviet-Proxy Relations

If the United States is to formulate and operationalize policies to counter Soviet-proxy interventions in the Third World, it is crucial that the vulnerabilities in the Soviet-proxy relationship be pinpointed and turned to advantage. This entails analysis of both the structural arrangement and ostensible purpose of Soviet-proxy endeavors.

The first weak link in the Soviet-proxy relationship is the lack of explicit commitment by the former to the ultimate security of the latter. The Soviets provide the wherewithal for a proxy to pursue some objectives, such as growth to regional power status, internal security for a regime in power, or for insurgents to overthrow an existing regime. However, if the proxy's objectives are in danger, Moscow is not necessarily obliged to assume risks in support of the proxy which might flow from escalation to the direct use of Soviet armed forces. In fact, Afghanistan notwithstanding, the Soviet record in the use of force in Third World countries has been prudent and cautious:

Second, while the Soviets are able to capitalize on military industrial capacity to provide vast amounts of military hardware (over $35 billion worth of deliveries over the past 25 years) and to send large numbers of military advisors and technicians, satisfying the security dimension of a Third World proxy's real or perceived needs, Soviet capacity to provide economic assistance and technology is limited (slightly more than $8.2 billion in actual disbursements since 1955).[2] In 1980, Cuba alone cost the U.S.S.R. $8 million a day and Vietnam another $2 to $4 million a day. Given the increasing plight of the Soviet economy, it is problematical whether the Soviets will be able in the future to offer much in economic assistance to current or potential Third World proxies whose related needs are increasing constantly.

Another dimension in this relationship flows from the fact that most Soviet-supplied weapons since 1965 have been arms sales, not aid.[3] In the 1980's, Soviet needs for arms sales as a source of hard currency earnings rather than aid, will increase. When strategic considerations dictate (e.g., in Zambia 1980), it seems likely that the Soviets will be inclined to reduce the prices of arms thus affording their purchase by Third World nations in Africa and Latin America.

However, it should be equally clear that in the long-run the Soviets will insist on payment and consequently could reinflate prices, impose high interest rates, or force the remainder of the debt to be settled by placing large quantities of Third World exports on the unprofitable East European market.[4] If economic conditions in in the Third World continue to worsen, this type of patron-proxy relationship could breed sufficient discontent to inspire would-be proxies to search elsewhere (e.g., Brazil, Argentina, China, Israel, and the U.S.) for arms deliveries.

Too, arms transfers where complex subregional conflicts exist have created some real dilemmas for Moscow. For example, the Soviets were able to induce Somalia to provide access to major areas for establishment of bases by arming them against a major rival, Ethiopia. When the Soviets later became a major arms supplier to a radically oriented Ethiopia, the Somalis were alienated and the bases were lost.

Third, outside Eastern Europe there are ideological vulnerabilities in the Soviet-proxy relationship. Understanding the value of nationalistic maxims, Third World leaders have followed policies designed to meet their own cultural and political needs often at variance with

Soviet prescriptions. Despite the fact that the Soviets have shown the ability to separate ideology from strategy (e.g., the 1939 Nazi-Soviet pact, and relations with Iraq, India, and pre-1973 Egypt), Moscow has also attempted to play on certain ideological affinities between patron and proxy, which often have resulted in serious failures, e.g., Egypt, Sudan, and Somalia.[5]

Fourth, despite the growth of Soviet naval and air power projection capabilities, the sheer facts of distance yield potential vulnerabilities in some proxy relationships. The case of Cuba, in America's backyard and traditional sphere of influence, is all too clear. Proxy relationships in Western Africa---in Guinea, Mali, and Angola---have been established over exceedingly long distances from the U.S.S.R. The power potential of Brazil and the relatively short distance to Africa's west coast suggest new dimensions in spheres of influence in the South Atlantic and potential future vulnerabilities in Soviet capabilities in West Africa. These vulnerabilities---institutional, economic, ideological, and geostrategic---provide the pressure points towards which a variety of the U.S. instruments of diplomacy might be directed.

Responses to Soviet Proxies

Any coherent set of policies for response to Soviet proxy interventions must begin with a massive information program (or "psychological operations" effort) elaborating the extent, purposes, and results of related Soviet activities, the threats these activities pose to U.S./allied interests, and relevant objectives the achievement of which require sacrifice. If there is any single, clear lesson out of the Vietnam era, it is that the American public (and allied publics as well) is unwilling to sacrifice lives and other resources where "hard," clearly defined, vital national interests are left undefined by the national leaders. A corollary lesson is that Americans demand well-defined objectives and credible sacrifices over time.[6]

A first dimension of this program should highlight the strategic implications of related Soviet activity, depicting the advantages gained from acquisition of bases along SLOCs, the protection of which are vital to the long-term economic security of the Western world. The link between the health of Western economies (or the principal economies of the "North") and the future development of the nations of the South should be drawn clearly. The recent history of Soviet efforts

to foment instabilities or capitalize on unstable situations to undermine pro-Western governments should be documented and explained. Patterns should be developed which infer Soviet intentions clearly.

The current administration attempted this in the White Paper on El Salvador which was provided for consumption by the American public, as well as explained in most capitals of Western Europe in February/March 1981, to head off criticisms that the United States was embarking on another Vietnam-type involvement. The long-term impact of this continuing information remains to be seen. The initial impact was diminished by several alleged and exposed inadequacies in documentation which surfaced in the American press. The continuing efforts of the Reagan Administration to document the nature and extent of Soviet and Soviet-proxy "interventions" in Central America hold some promise of success in preparing public opinion for U.S. responses in the region.

A second aspect of "information" is in the realm of diplomacy as it relates to <u>deterrence</u> of Soviet-proxy or allied interventions. Assuming that the proxy or ally will not intervene unless there is a congruence

of interests with Moscow and, further, that the U.S.S.R. controls major elements of proxy resources, a Soviet-proxy intervention can be deterred in the first instance by influencing the decisions of Soviet leaders. Deterrence flows from a U.S. commitment to retaliate in a way harmful to Soviet interests if Moscow directs or permits intervention. For the commitment to be positively credible, America's leadership must demonstrate clearly the U.S./allied interest(s) to be affected adversely, suggest persuasively that the American public will support defense of the interest(s) by relevant means, and show that the United States has the actual capability (psychological, economic, military) to respond effectively by means commensurate with the Soviet-proxy or ally threat (meaning limited objectives employing limited means). All three of these elements must be present for deterrence to work.[7] An added measure of credibility would flow from a U.S. reputation for following through successfully with such commitments: a reputation the United States does not now enjoy, especially in the light of marginal uncertainties about the role of Congress flowing from the recent history of Executive-Congressional relations (e.g., the War Powers act).

Effective use of the military as a political instrument against Soviet proxies necessitates, among other things, detailed and comprehensive analyses of the relative appropriateness of U.S. and allied military force in individual contingencies. In effect, U.S. policymakers need to anticipate, as best they can-- given the dangerously complex nature of the international political system-- potential conflict situations and the possible public reactions to Western counter-responses in those scenarios which could involve the use of Soviet proxies and allies.

Historically, the United States has suffered from a serious lack of foresight in attempts to predict "soft spots" in the Third World where it appears that American interests are vulnerable and potentially threatened. Why has American been caught off guard so readily by events such as the Iranian crisis in 1980, the fall of Ethiopia in 1977, the Cyprus crisis in 1974, the Arab-Israeli war in 1973, the Cuban missile crisis in 1962, and the Chinese revolution in 1949 and why was she not more aware of the innumerable variables involved in Vietnam and Korea?

A partial answer to this query attributes U.S. decision makers' surprise and alarm over the unexpected events in the international arena to the lack of quality in U.S. intelligence-gathering, -processing, -analysis, and -assimilation into decision-making.[8] Specifically, the U.S. intelligence community alone may be incapable of monitoring constantly each area of expressed U.S. interest and, moreover, often appears to be unable to incorporate regional assessments optimally into the U.S. foreign policy decision-making process?[9] Clearly, this defeats the purpose of intelligence-gathering: to provide objective data to illustrate constructively the variables in the external world which may either inhibit or advance U.S. interests, surfacing both problems and opportunities.

Intelligence analysts cannot be expected to predict the future of a rapidly changing international system, especially given the fragmented and disputable data they often receive. However, analysts should be able to illustrate, judging from trends in political systems, options available to U.S. policymakers, and to indicate the probabilities of various outcomes. Reliance on a single intelligence office is an insufficient method for producing indices from which policy options can be

developed. While some intelligence experts have argued for the centralization of all collection and analysis operations, a number of events have illuminated that healthy competition, and even duplication of effort can safeguard against unforeseen variables and institutional biases.

Given these considerations-- the need for public support for the defense of identified U.S. national interests and better use of intelligence-- we turn to three general modes of response. The principal approaches to Soviet proxy or ally interventions are deterrence, preemption, and reaction. Each will be discussed below.

Deterrence

Making the link between Soviet initiatives and potential proxy operations is important in deterrence. If the Soviet "link" is clear, the United States might threaten Moscow directly, at least on a nonmilitary level, through existing control mechanisms on technology exports. The United States could threaten to exert leverage over the Soviet Union by linking the quantity and quality of U.S. technology exports headed to the U.S.S.R. to Soviet-proxy behavior in the Third World.[10] Similarly, despite well-known domestic pressures, the United States has the capacity to threaten restrictions

on grain and other food shipments to the Soviet Union to deter Soviet support for a proxy intervention.

The Soviet Union also might be threatened directly in areas noncontiguous to the proxy intervention where Moscow has other important, but not vital interests. U.S. leaders might threaten direct military intervention there by U.S. forces, allied forces, or proxy forces. The purpose of such a strategy of "linking" the original locus of intervention (where the Soviets and their proxies may enjoy strategic advantage) to another area of Soviet strategic interest can serve to lessen the likelihood of direct confrontation as well as provide the opportunity to capitalize on possible U.S. or allied strategic advantages. This is the increasingly popular theory of "horizontal escalation" in a deterrent mode.

There may be a number of options for confronting (deterring) proxy forces themselves, both inside and outside the area of potential or actual intervention. In this case, the politico-military instruments available to the United States are broader. For example, the use of propaganda might be effective in deterring proxy incursions by emphasizing cultural and ideological differences between the U.S.S.R. and the

proxy, or between the proxy and the nation in which it operates. Diplomatic exchanges and psychological operations might develop several themes: 1) the long-range inability of the Soviets to deliver little other than sales of conventional military assistance to proxy states; 2) weaknesses in Soviet economic assistance programs, including failure to promote technological and industrial growth in developing nations; 3) lack of support from other nations and in international forums for Soviet-sponsored ventures; and 4) the absence of Soviet security guarantees for its proxies. In the latter theme, a credible U.S. commitment to respond in ways harmful to the proxy or ally would have to contain all the elements of "credibility" outlined above.

Preemption

Recalling the earlier comments about definitions, one realizes that preemption is, of course, "intervention" unless the United States is invited in by a generally recognized government of a sovereign nation. If another nation preempts, for example, with military forces in support of a revolution against such a government, this is a clear case of intervention according to international law. The consequences of intervention

under international law are problematical, especially in the case of intervention by a superpower.

The object of preemption might not be far removed from deterrence, that is, to prevent a Soviet proxy or ally from "intervening" in a country in a manner affecting U.S./allied national interests adversely (e.g., overthrowing a friendly government or seizing control over resources vital or important to U.S./allied security). However, unlike deterrence, preemption requires an actual commitment of resources (rather than a stated intention to do so). The preemptive commitment may take place in the country where the U.S. interests reside, between a proxy's homeland and the country where U.S. interests reside, or directly in the proxy's homeland. For obvious reasons, one should rule out the latter commitment against a Soviet "ally," as in the case of the German Democratic Republic.

The possible modes of preemption by the United States and/or its allies are legion (and somewhat dependent on the time available):

1. In the country where U.S. national interests reside:

- psychological operations to induce the government and/or population to take overt actions to resist an imminent proxy intervention; or, PSYOPS to undercut support of a Soviet-proxy government,
- economic assistance to shore up the economy and provide the population with stakes to defend,
- military or paramilitary assistance (weapons and advisors) to provide capabilities for defense of a status quo or to support a revolutionary force if time is short (as it often will be), the weapons should be drawn from a U.S. "quick reaction" stockpile of munitions ranging from simple rifles, mortars, and antitank weapons to more sophisticated systems,
- Special Forces and Ranger Units, for training in special operations or unconventional warfare, either to prepare to defend a status quo or for training or use in overthrowing a government by defeating its forces, or by coup or counter-coup,
- deployment of U.S. surrogate military forces (allies or proxies) with specific missions in defense of U.S. interests,

- deployment of U.S. military units with specific missions and doctrine, training, and weapons tailored to meet the threat of particular proxy forces.

Preemption of the last type carries risks inherent in the way most U.S. Army forces in particular have been and remain structured, that is, to engage in attrition warfare on the plains of Central Europe. Although the Army may be moving as fast as any huge bureaucracy can to change doctrine applicable for maneuver warfare, almost all Army units are "top-heavy" in C3 systems and require enormous logistical support. Unless the time horizon required for preemption is relatively short (a few weeks or months), there is a Vietnam-type proclivity for digging in and acquiring creature comforts. Thus, maneuver capability is reduced and the troops "go native," with all the adverse implications for unit cohesion and local communities derived therefrom. Such a preemptive commitment, over an extended period, risks also losing the support of the American public.

2. Between the Soviet-proxy's homeland (unless, obviously, the proxy force is indigenous) and the locus of U.S. interests:

- Visible air surveillance of borders or coastlines.
- Where relevant, border or sea surveillance by armed patrols.
- Mining of harbors and key coastal areas.
- Enforced blockade or quarantine to inspect and deny access.
- "Warning shots."
- Disabling strikes to deny access.

This mode ups the ante in risk taking by placing visible hurdles in the proxy's or ally's path which he may or may not decide to test or cross. A deterrent effect is operative because the choice of taking successive levels of risk is on the Soviet proxy. There are other, difficult-to-predict risks, such as a warning shot or disabling strike against aircraft or ships manned by Soviet crews.

3. In the Soviet proxy's or ally's homeland:

- Psychological operations to subvert the proxy cause or indigenous base of support,
- Mining of ports and harbors,
- Blockade of borders, coastlines or territorial waters by military force or implantation of chemical or radiological agents,

- Clandestine provision of arms, advice, or training for revolutionary groups,
- Special operations in support of an indigenous coup d'etat or an outright military operation to seize, abduct, or assassinate government leaders,
- Clandestine use of biological agents,
- Unconventional warfare by Special Forces,
- Armed, demonstration air- to sea-attacks against selected targets,
- Conventional military invasion by surrogate military forces, with or without U.S. support.
- Conventional invasion by specifically tailored U.S. military units, based on thorough intelligence and with specific missions.

The object in this mode is to destroy the proxy's or ally's will or military capability to intervene elsewhere in violation of vital U.S. interests. Operations should be controlled by adaptive command structures and should be designed insofar as possible for quick, local decisions. "Occupation" should not be envisioned; if land forces are committed, withdrawal should be quick.

The level of risk in this preemptive mode is a step higher. Although sound intelligence should be able to help determine the level of risk, Soviet troops or ad-

visors may be "in-country," and avoiding them might be difficult or impossible. Another dimension of risk flows from assessments of the acceptability of preemptive operations to the American Congress and public at large. Time available or requirements for secrecy may not provide an opportunity to prepare America or allied nations in advance to accept resort to preemptive armed force, which otherwise might take on the appearance, if not the legal form, of "intervention." A quick, successful operation might find greater ex post facto acceptance.

Reaction

This mode assumes far greater political, military, and psychological burdens and military risks. Unlike deterrence, which is the psychological game of mastering Soviet or Soviet-proxy expectations through credible threats, and unlike preemption which, except for its more extreme form of military invasion of the proxy's homeland before U.S. vital interests have been violated reaction generally, (but not always), will require compcompelling proxy military forces already in place to withdraw or be defeated in place. The initiative already is with the proxy. He will have made an overt commitment already, will have psycho-political sunk costs in the

endeavor, and probably will have the momentum of his population pushing in the direction he has set in motion.

The most likely scenario would not permit time for the measured use of the diplomatic, psychological, or economic instruments of statescraft. The reasons for this are twofold. First, if the U.S. interests involved were vital (e.g., proxy seizure of a U.S. base or U.S. citizens, direct control over vital resources, or control over a strategic waterway), time would permit the Soviet-proxy or ally to consolidate both control and defenses. Second, if the interest were really vital (and perceived as such by the American public), there would be a high probability of congressional and public pressure on a U.S. president to "do something" and, perhaps, allied pressure or assent for a military reaction. This would be the case especially if it were generally known that the United States judiciously had attempted deterrence and preemption short of invading the proxy's homeland.

Given the traditional assumptions that the defender has the advantage and that (under some conventional war scenarios) the attacker would require a three-to-one advantage in combat forces (irrelevant in other scenar-

ios), the magnitude of U.S./allied/proxy military efforts required would be greater than in preemption.

It is not unreasonable to assume that a Soviet-proxy intervention constituting a clear violation of U.S. vital national interests would be followed immediately by a high-tension situation in U.S.-Soviet relations, which would tie down in-place NATO/Warsaw Pact forces and U.S. NATO reinforcing units. U.S. units thus available for use in a reactive mode would not be great. In a scenario where reaction involved a lack of secure military access ashore, the problems or inserting whatever units of the present Rapid Deployment Force were available would be formidable. If the scenario were in the Persian Gulf (now), the United States simply would not have sufficient forces available, even to match, for example, the Iraqi army (which could become a Soviet proxy under certain conditions).[11] Recent statistics on AVF recruiting and retention notwithstanding, plans to increase the size of the Army do not look promising for the future (especially if Reaganomics works).[12] Moreover, depending on the scenario, adequate airlift might not be available (the civilian reserve airfleet could be used in a real "emergency"). Sealift, given a high-tension situation in Central

Europe, should not be used and, in any case, would be too slow for a fast reaction in many regions. U.S. Marine units might be able to make a lodgement ashore in cases of Soviet-proxy interventions in littoral states, but would not have adequate support in some scenarios for a penetration deeper than perhaps 40 kilometers.

In brief, assuming a scenario geographically far removed from U.S. shores in which a reaction requirement for substantial military force deployments would develop very quickly, U.S. conventional force capabilities for the foreseeable future appear extremely limited. This raises the specter of nonconventional force requirements, that is, chemical, biological, and nuclear options---which will not be addressed here.

However, as in one of the strategies of preemption, the proxy (if not operating in his own homeland) might be compelled to withdraw from his foreign adventure by using the vast array of retaliatory options ranging from psychological operations to outright military invasion against the proxy's homeland. In the case of the Cuban proxy, the United States enjoys the geostrategic advantage of short distances. In the case of Libyan intervention, French, other allied and OAU forces would

have comparative advantages in reaction.

These three general modes of response--deterrence, preemption, and reaction--theoretically are available to the United States acting alone, in concert with allies, or through surrogates (allies or proxies acting on behalf of the United States with or without overt U.S. support).

There are four principal reasons why the United States should rely increasingly on allies or proxies. First, depending on the conflict scenarios involved, the United States may not have the capability to act alone. Even assuming the support of an American consensus (a sine qua non of capability), the foreign policy instruments required may not be available quickly enough, if at all. Simultaneous, "worst case" Soviet-proxy military interventions (e.g., South Yemen attacks into Saudi Arabia; Cuban regular units, introduced through Nicaragua, movement into El Salvador; and Libyan attacks into Chad) occurring during a high-tension situation in U.S.-Soviet relations ("pinning down" NATO-Warsaw Pact forces in Europe as well as U.S./NATO units designated for reinforcement of NATO), would constitute requirements beyond the capability of U.S. active-duty military units. Such a worst-case scenario might overtax C3I capabilities as well. Second,

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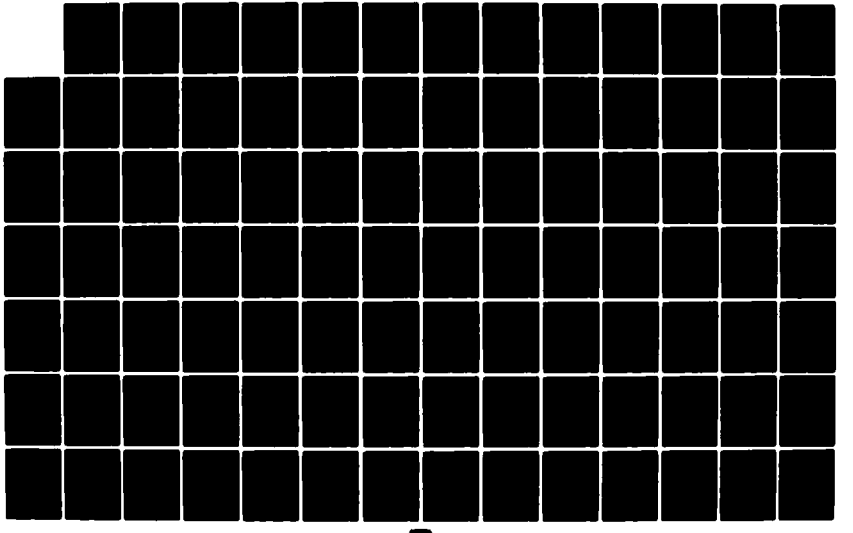

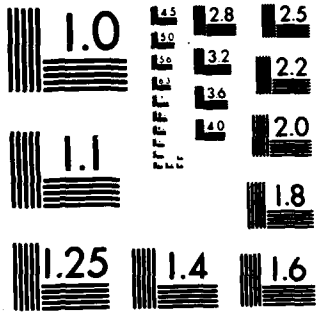

the introduction of American troops in situations where the Soviet military might be involved (flying Libyan or South Yemeni jets or advising ground units) might create risks U.S. decision-makers would be unwilling to take. Third, as a matter of foreign policy principle, U.S. allies or proxies often would have interests involved for which they should assume responsibility. And, fourth, as a matter of economy of effort, U.S. allies or proxies often might have capabilities more efficient than those of the United States or might have redundant capabilities, permitting employment of U.S. resources elsewhere.

Some suggest that, in the near future, the United States "...can expect very little of coordinated security efforts in the Third World."[13] This may be correct and argues for continued efforts toward closer intra-alliance relations and coordinated military planning with allies and friends in the interest of developing capabilities for "coalition warfare"--a capability Robert W. Komer consistently has argued the United States does not possess.[14]

Despite some opinions to the contrary, it is not at all certain that U.S. allies would be reluctant to join U.S. efforts responding to Soviet-proxy or ally

interventions. Some allies have considerable capability to do so. Reportedly, France keeps stationed in or near Africa approximately 14,000 troops in such places as Congo-Brazzaville, Guinea, and Mozambique facing Cuban troops in Angola and Ethiopia.[15] One authority on European perspectives has summarized relevant European views in the case of Sub-Saharan Africa and the French reaction to past U.S. policies toward Soviet-proxy interventions there:

> Generalizations about European alignments in Africa are very difficult. The number of states is large; their development and historical ties are different; many are more geographical expressions ruled by an army than integrated states; tribal, ethnic, and linguistic differences are the rule; and European and American interests are not uniformly defined and even much less are they coordinated. The European-American approaches to the area may be characterized in terms of the debate over U.S. African policy since many of the global aspects of this exchange are relevant to European decisionmaking. The French are inclined, with major reservations, to what has been reported (and only with partial accuracy) as the Brzezinski thesis. Here the major priority is security defined in military terms and directed against the Soviet Union and its clients, principally the Cubans and East Germans. The Angolan debacle and Soviet, Cuban, and East European presence in the Horn of Africa and South Yemen are seen as major threats to Western interests. These forces undermine political stability in central and southern Africa, convulsed by racial tension, internal divisions, and strivings for self-determination; they threaten access to needed raw materials and markets to turn Europe's mills; and the control of these areas threatens the sea lanes vital for oil shipments to the West in the Red Sea, the Indian Ocean, and around the Cape of Good Hope.

> The French have been puzzled, perplexed, and piqued by vacillating American policy in the region as it steers a steady course between these competing guidelines for action. They have expressed alarm that the United States could have so easily acquiesced in Soviet penetration in Angola and the Horn....The French also feel themselves vulnerable to direct Soviet and Soviet-client military confrontation in Africa as they try to manage detente with the Soviet Union on nonconfrontation lines in Europe, the Middle East, and North Africa. They would like more American military help but without seeking it.[16]

Although the United States has not been very successful in recruiting allied or proxy surrogates to protect U.S./allied interests in the Third World, there have been some successes where allied interests were directly involved. Despite the fact that France has sold jets to Libya contrary to U.S. interests, since 1960 France also has intervened in the Cameroon, Congo, Gabon, Niger, Djibouti, Tunisia, Morocco, Mauritania, Chad, the Central African Republic, and Zaire to support pro-Western causes.[17] In 1977-78, a multilateral defense initiative involving Moroccan troops, French logistic support, and 2,400 French and Belgian paratroopers was launched to deter separatist aggression out of Angola against Zaire's Shaba province.[18] Most recently, France furnished transport and logistical support to help expel Libyan troops from Chad in a

testy tour de force by Libyan President Qaddafi, and worked toward the construction of an OAU international peacekeeping force to replace Libyan forces.[19]

Until the installment of socialist President Francois Mitterand, France could be considered "le gendarme d'Afrique"--given the fact that French interests in Africa generally coincide with Western interests. Today, it is uncertain how active France may be in serving Western interests. French interests probably will be geared toward preservation of economic ties, most notable in Chad and Niger.[20]

Of course, the United States should not look only in Western Europe for friendly nations who feasibly could deter and defeat Soviet proxy aggression. In the Middle East, the prospects are encouraging. Saudi Arabia, for example, has acted to quash aggressive behavior by South Yemen, which has been ostracized by the Arab League. The Saudis moved decisively in March 1980 to arrest growing Soviet influence in North Yemen by pressuring her into an agreement to eject 100 Soviet military advisors then in the country. Egypt is proving to be an invaluable ally as well. Egypt has been the only country in the region to permit U.S. access to local bases, and continues to foment, even

with the death of Sadat, virulent policies against Libyan adventurism.

The People's Republic of China (PRC) is another potential ally which should not be overlooked in developing policies to contain Soviet proxies. China has used the Khmer Rouge to terrorize Vietnam and support anticommunist guerrillas with weapons and supplies. China also has endeavored to play an influential role in Africa.[21/] Chinese intervention has been limited, however, due to lack of military and technological resources, as well as adequate means of transport. The United States could serve as a catalyst by furnishing weapons, technical expertise, and reliable airlift, which could enlarge the capacity of China to play an influential anti-Soviet-proxy role in areas noncontiguous to the Chinese mainland.

Admittedly a complex international security policy undertaking, the value of supporting and cooperating with allied forces as a means to deter Soviet-proxy aggression has not yet been fully appreciated by U.S. policymakers. As we come to understand more clearly that massive applications of division-size units cannot easily influence historical changes in the Third World, and that the U.S. may no longer be in a position to exercise power in such a fashion; the importance of

working in concert with other nations to neutralize and to defeat Soviet-inspired proxy interventions may become infinitely more apparent.

At the same time, however, the United States cannot expect more regionally focused friends and allies to defend global U.S. interests without having clear security concerns of their own. Yet while the reality of recruiting allies and proxies is uncertain, their potential roles may be invaluable.

The threats of Soviet-proxy inervention to U.S. national interests are very real; adventuristic policies undertaken by Cuba, Libya, Vietnam, and South Yemen (to name but a few) have increased and will continue through the 1980's unless the United States and its allies make it clear to would-be aggressors that Third World interventions are not without penalties. At the same time, U.S. response options will be constrained by many factors, e.g., world perceptions of the legitimacy of a U.S. response, reputation of the proxy, actual U.S. and allied capabilities and "resolve," and potential political-military confrontations between the superpowers arising from proxy involvements in the Third World.

CONCLUSION

For the foreseeable future, U.S. national security planners, like Soviet planners, necessarily will be preoccupied with the central strategic nuclear and conventional balances and with avoidance of military involvements which carry high risk to direct Soviet-American military confrontation. Under these circumstances, ideal U.S. strategic guidelines to contend with Soviet-proxy interventions should:

1. Avoid situations of protracted U.S. involvement likely to lead to incremental military buildup and attrition warfare. Instead, the United States should revitalize intelligence capabilities and opt for preemptive, quick local decisions,
2. Establish coherent policies and programs for psychological operations which clarify civilian and military responsibilties,
3. Reverse the downward trend in American foreign economic and military assistance to the Third World nations.
4. In a sustained, combined planning effort with U.S. allies and friends, rely to the maximum on the use of surrogate military forces,

5. Establish a stockpile of U.S. weapons, technologically suited for recipients, which can be sent overseas rapidly to allies and friendly nations,

6. Significantly expand U.S. strategic lift capabilities,

7. Create and expand specifically-tailored light forces with adaptive command structures to counter the most likely threats to U.S. security interests worldwide,

"Guidelines" are relatively easy to formulate. Developing plans, policies and programs to fit guidelines, shepherding them through the congressional authorization and appropriations process, and translating guidelines into training doctrine and force structure erect formidable hurdles with which those in the executive branch are all too familiar. Yet, one should begin at the beginning.

END NOTES

1. Roger Hamburg, "Low-Intensity Conflict: The Soviet Response," in Sam C. Sarkesian and William L. Scully, ed., U.S. Policy and Low-Intensity Conflict: Potentials for Military Struggles in the 1980s (New Brunswick: Transaction Books, 1981), p. 153.

2. Strategic Survey 1980-81 (London: The International Institute for Strategic Studies, 1981), p. 47.

3. Robert E. Harkavy and Stephanie G. Neuman, ed., Arms Transfers in the Modern World (New York, Praeger Publishers, 1980), p. 141.

4. For example, these developments have been devastating to the Ethiopian economy; Ethiopian foreign reserves have more than halved since a high point in late 1976. See Mesfin Gabriel, "The War Effort Takes Too Much," New African, June 1978, p. 33.

5. Egypt discontinued Soviet military aid and assistance after the 1973 Arab-Israeli war, and expelled members of the Soviet mission in Cairo in September 1981 as part of a current crackdown on Soviet influence in Egypt. Also, note Somalia's expulsion of Soviet and Cuban advisors in July 1977 and the Sudan's severing of formal diplomatic ties with the Soviet Union during that same year. David E. Albright, Communism in Africa (Bloomington: Indiana University Press, 1980), pp. 219-22.

6. Actually, these are among the lessons which should have been learned in the Korean War. They were elaborated early in Robert E. Osgood, Limited War: The Challenge to American Strategy (Chicago: The University of Chicago Press, 1957, passim. See also Amos A. Jordan, William J. Taylor, Jr. and Associates American National Security: Policy and Process (Baltimore: The Johns Hopkins University Press, 1981) pp. 42-57.

7. Theoretically, there are two other alternatives for

achieving credibility. First, U.S. leaders might try to deceive ("lie to") the Soviets about relevant U.S. capabilities. However, either Soviet intelligence or press leaks would make this a dubious ploy. Second, some suggest that one might acquire an increment of credibility for commitments from sheer unpredictability. This is theoretically possible, but only if the adversary believes there is relevant capability to back up the commitment.

8. See Amos A. Jordan, William J. Taylor, Jr., and Associates, op. cit., pp. 127-50.

9. Ibid,, p.149

For example, note the different estimates of production costs and logistical backup for Soviet combat forces during the 1960s and early 1970s, and the different estimates of Soviet strategic forces during the same period;
Also, the CIA and DIA recently have used similar information to arrive at far different predictions for the future of Soviet energy policy.

10. See Samuel P. Huntington, "Trade, Technology, and Leverage: Economic Diplomacy," Foreign Policy, no. 32, Fall 1978, pp. 67-70, and J. Frederick Bucy, "Technology Transfer and East-West Trade: A Reappraisal," International Security, vol. 5, no. 3, Winter 1980/81, pp.132-51.

11. Jeffrey Record, "The Rapid Deployment Force: Problems, Constraints, and Needs," in The Annals of the American Academy of Political and Social Science, Vol. 457, September 1981, p. 115.

12. William J. Taylor, Jr., Eric T. Olson, and Richard A. Schrader, eds., Defense Manpower Planning: Issues for the 1980s (New York: Pergamon Press, Inc., 1981), passim.

13. See "Rethinking U.S. Security Policy for the 1980's," in Proceedings of the Seventh National Security Affairs Conference (Washington, D.C.: National Defense University Press, 1980), p. xi.

14. For example, in his banquet speech for The Future of Conflict Conference, The Georgetown University Center for Strategic and International Studies, November 23-24, 1981.

15. Edward Kolodziej, "European Perspectives on Europe's Role in the World: The Partial Partner," in Proceedings of the Seventh National Security Affairs Conference, op. cit., p. 109.

16. Ibid., pp. 108-09.

17. See James O. Goldsborough, "Dateline Paris: Africa's Policeman," Foreign Policy, no. 33, Winter 1978-79, pp. 174-90.

18. Ibid., pp. 175-76.

19. Note: With the formation of an OAU peacekeeping force to preserve the stability of the Chadian regime, the "excuse" for Libyan troops stationed in Chad was removed. Having lost "legitimacy" for their military presence, Libyan forces withdrew from the area.

20. Close to two-thirds of the uranium for French nuclear reactors comes from Nigeria, Chad's immediate Western neighbor. See Goldsborough, op cit., p. 181.

21. During the Angolan civil war, Peking authorized Zaire to release stored quantities of Chinese weapons to be used against MPLA forces in Angola. See Charles K. Ebinger, "External Intervention in Internal War," Orbis, no. 20, Fall, 1976, pp. 687-89.

APPENDIX E

PSYCHOLOGICAL OPERATIONS:

CHALLENGE AND RESPONSE

INTRODUCTION

The Soviet psychological warfare (PSYWAR) program may be the most powerful weapon in that nation's arsenal*. To date, the program has prevented the deployment and assembly of the neutron weapons in Western Europe, thus robbing the West of an extremely potent and persuasive means of projecting power. This move cost the Soviets nothing but words and allowed them to concentrate still further on their buildup of armed forces. The program also has cost the United States a loss of prestige in the pursuit of enhancing its defense posture in Europe. Soviet PSYWAR threatens to derail NATO's two-track approach to Intermediate Nuclear Forces in Europe. And Soviet PSYWAR is fueling the anti-nuclear weapons/peace movements across the Atlantic, creating enormous leverage for the nuclear freeze advocates in the United States.

By contrast, the United States has today no viable, coordinated or comprehensive program of psychological warfare. There is a general distrust of anything even intimating PSYWAR -- and even greater misunderstanding. For example, a bare minimum of cooperation exists between the military and civilian agencies concerned with such matters. In the past, civilian government agencies have hesitated to associate themselves with the military Psyops community; today, there is still no regular liaison between

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* We use the term psychological operations (PSYOPS) to identify the range of attitude-changing techniques -- white and black propaganda, carrot-and-stick promises and the like -- intended to influence the outcome of emerging or existing conflicts. Psychological warfare (PSYWAR) are those actions orchestrated during a period of conflict; the employment of such techniques is a policy decision reached at the national level.

the two. Former Representative John Le Boutillier (R-NY), among others, has called for a more aggressive program from the U.S. Information Agency (USIA), which runs the Voice of America. Yet the agency operates without any formal contact with the few military experts in PSYOPS.

The most telling example of the atrophy of the U.S. ability to wage successful PSYWAR is in the military establishment. In tactical command post exercises, commanders shun the use of PSYOPS tools, such as loudspeakers simulating armored track vehicle movement in conjunction with electronic means representing normal armored unit communications. The problem with this is that armed forces fight the way they train. Without training, there cannot be a wartime PSYOPS capability. The army, the executive military agency responsible for PSYOPS, has only one individual on its staff dedicated to such endeavors. The army PSYWAR representative on the staff of the JCS works only part-time at the task. The active army units, of which there are four very small ones, lack many of the required qualified officers and noncommissioned officers. Almost the entire military PSYWAR capability of the United States rests in the U.S. Army Reserve, yet reserve units are burdened with administrative levels of command which neither understand the importance of PSYOPS nor assist the reserve units to become combat-ready.

The baseline for PSYWAR at present is near zero; therefore, its potential is unlimited. There is a compelling need to

exploit immediately the advantages that may be accrued from the use of PSYOPS. The squeamishness that U.S. policymakers now display must be overcome and a hard line taken in developing a coherent and coordinated effort to develop a successful strategy and launch effective PSYOPS campaigns.

TARGETS

There are many aspects of PSYOPS related to high-level civilian propaganda efforts of various U.S. agencies which have both foreign and domestic targets. These arenas, however, are not the subject of this paper. We are interested here in the external targets of PSYOPS in which the military has an appropriate role.

A major target set consists of those foreign nations or foreign political action groups that are not necessarily enemies of the United States, but which often differ with U.S. policies and take public stands in opposition to U.S. national interests. The USIA and the Department of State could be more effective in this arena which the military has largely avoided, principally because military involvement might be viewed as inappropriate or counterproductive. Considering the distinct possibility that the countries in this target set might swing into the enemy's camp, however, it is an important question whether the military should become more involved even if only for planning purposes. Angola, Ethiopia, the Yemens, El Salvador, Nicaragua, Iran, and Afghanistan might all be considered PSYOPS targets where a military role is legitimate. The rationale is simple; U.S. forces could be committed in these nations.

The second major target group is "the enemy," targeted by the U.S. Department of Defense, State Department, Department of Commerce, and various other agencies. The enemy includes the Soviet Union, its allies, and proxies.

The extent of the enemy "without" is not well defined. There are elements of it working in allied countries and some of these elements are, unknowingly, working for Soviet causes. The Soviet Union has a whispered disinformation program, i.e. the use of rumor, insinuation, and distortion of facts to discredit foreign governments, leaders, and international organizations.

There are essentially three basic tools the psywarrior can use: the spoken and written word, and image projection--both visual and audio. Each can be used singly or in combination, depending on the circumstances. The limitations on their employment are time, expense, and bulk, but these vary in proportion according to how, when, and where they are used.

Of the three tools, the written word is the most easily disseminated. In its simplest form, a pencil and a few pieces of paper are all that are needed to get across the appropriate message. At the other end of the spectrum are high-quality, well-illustrated, and professionally produced books, pamphlets, and magazines. The primitive

items would most likely be passed from hand to hand, having been initially delivered by air, artillery gun, balloon, or courier. The more sophisticated items would be placed in the hands of the target audience most likely by government mail or private handling systems. How the written word is to be used must be carefully examined before it is applied, for there is a danger that it may backfire.

The second tool, the spoken word, is relatively easy to employ but its success depends on many variables. The type of audience, for example, can have numerous configurations. It can be a huge rally--the kind Hitler addressed. Such events, however, take great organization, must be held at the appropriate time and place, and generally require extensive sound-projecting equipment. Another audience configuration could be large numbers of small groups assembled at different locations around television sets or radios. During World War II, many citizens in occupied countries used to assemble to listen to special programs broadcast especially to them. Still a third audience would be widely-dispersed individuals who could be reached only with the spoken word, requiring radios, tape cassettes, and loudspeakers mounted on vehicles and aircraft. Range, however, currently limits the effectiveness of radios and loudspeakers.

Range-extension of transmitting devices is an area that will advance in the 1980s. Satellites above the earth offer particularly great potential for broadcasting. Today, for

example, Soviet Central Asia cannot be reached by radio, but technology will soon be available to make it possible for U.S. radio communicators to reach every corner of the earth from North America. It will no longer be necessary to depend on vulnerable stationary transmitting posts located in isolated parts of the world. Satellites used in conjunction with advanced FM equipment offer great potential savings in terms of effort, funding, and staffing.

Communications satellites may be able to extend the range of radio and television, but such extension would be for naught if no receivers picked up the signals. One might look forward to inexpensive but powerful miniature receivers resembling wristwatches or earrings. Available modes of such receivers, which would have to be mass-produced, must be considered.

Electronic advances have recently made available the cassette tape recorder, another means of dissemination. In Iran, verbal tapes condemning the regime of the Ayatollah Khomeini are being distributed clandestinely, just as tapes with other messages were in the time of the Shah. Since the cassette need not bear a particular signature (i.e. label) like a leaflet does, it is virtually impossible to detect its origin unless it is played. All that is required to camouflage a cassette is to give it a false label, or none

at all. Further, the proliferation of tapes in the world is so great that it is also nearly impossible to prevent their distribution.

Another step forward with the cassette idea is the mass production and distribution of the video tape. Although it may be many years before propaganda can be distributed in the poorer regions of the world using video cassettes, the situation is different in Western Europe and the United States, as well as in oil-rich countries such as Libya and Saudi Arabia. In the 1980s, wide distribution of video cassettes is well within the realm of the possible.

Video cassettes introduce the third tool, image projection, both audio and visual. The former is actually a means of deception that the military finds particularly effective, by way of tape recordings of armored vehicles that simulate the presence of mechanized formations in the area. Through the adroit use of loudspeakers, a scenario that includes reconnoitering an area, moving into the area, digging in, consolidating the position, expanding it, and firing from it can all be simulated. In conjunction with fake radio traffic, the illusion can be created by the sounds from a couple of light trucks with speakers and radios simulating the presence of a large and powerful armored organization.

The more common, and more sophisticated, means of projecting images, however, is through the medium of television. American television producers conducted a very successful

PSYOPS campaign that redounded to the benefit of the enemy during the Vietnam War. There is little doubt that the pictures of returning "body bags" shown on television, coupled with the constant reiteration of questions about U.S. interests in Vietnam during that time, had a deleterious effect on public morale and, eventually, on soldiers in combat. This psychological victory for the enemy was gained, probably unwittingly, by competing media groups that were interested primarily in the money to be made and concerned less about about the damage that might be done to the nation. As it turned out, one riot perpetrated by the left-wing Weathermen had more impact on the American viewers than did 50 successful battles against the North Vietnamese and Viet Cong. The Vietnam War coverage is vivid evidence of the effectiveness of visual image projection, and one can look to its continued effectiveness.

As with radio transmissions, it should be possible to the Year 2000 to develop low-cost receivers that could be distributed on a random basis to target audiences throughout the world. Although not as small as earring or watch-size radio receivers, television receivers the size of tennis ball cans possibly could be cheaply produced and distributed by courier, balloon, or aircraft. Made of high-impact material with solid state circuitry, the device would be able to receive several channels to reduce the possibility of losing them to electronic jamming. Programs would be sent via

satellite, which would make it possible for even those in the most remote areas of the world to receive messages.

The means described above only scratch the surface of possibilities. Modern communications technology is expanding so fast that the psywarrior must constantly watch for new and fast ways to reach the target audience. This search must also be directed toward new concepts in PSYOPS, such as the use of mechanical devices that "suggest" ideas and implant them in a person's subconscious. Extrasensory means of waging PSYWAR are already being experimented with by the Soviet Union. Allegedly, great amounts of money are being directed to Soviet institutes researching what is known as parapsychology, which includes extrasensory perception (ESP). U.S. intelligence agencies, according to NBC Inc., have not taken the Soviet effort too seriously, but the military uses of parapsychology cannot be overlooked even if they do not seem to comply with the Western "fair play" attitude. With the state of U.S. technology as high as it is, the transmission of extrasensory messages is certainly possible.

DEVELOPING PROGRAMS

Inventors will come up with the mechanical devices, but thinkers will have to develop programs that make use of the devices. Although different agencies have different methods, there are a few essential common steps. The military probably has the simplest procedure, consisting of three steps. These are: performing research and analysis; integrating current intelligence into the product; and producing propaganda.

Research and analysis are the most involved. Once the general target area is identified (for example, a country such as Albania), a decision has to be reached concerning the best means to attack it. This is done through exhaustive study of the country's demography, geography, linguistics, history, economic and political structure, and sociological composition, to name but a few substantive areas. The idea is to determine the vulnerabilities and strengths of the target. Once the vulnerabilities are determined, it must then be decided whether or not they can be exploited.

If the target is determined to be exploitable, the next step is taken---intelligence is incorporated into the research. Timeliness is critical; current intelligence is dependent on time-sensitive material. In combat, this material comes from finding documents on the battlefield, intercepting enemy communications, and interviewing recently captured enemy

prisoners. The intelligence gained is exploited best by swift military action, which may include a PSYOPS ploy. Normally, however, current intelligence is integrated into the studies done by the research and analysis teams, who dispatch the entire integrated package to the propaganda teams for implementation.

The propaganda team determines how to use the material coming from the research and analysis and intelligence teams. It examines the target and its susceptibility to different types of propaganda and how best to reach the target. The team then develops a program of "attack". The team might decide that an ethnic minority serving at a certain part of the front can be reached by a leaflet suggesting that members of the minority in the armed forces are being "used" unfairly by their government. This is a simplistic example, but it illustrates the most basic function of a propaganda team.

At a different level, it may be decided that a series of broadcasts on a certain theme should be beamed at a potentially receptive target group. Due to the amount of required coordination, the money involved, the lead time required, and expertise demanded, the campaign could take a long time to prepare and might extend over a long period. Such campaigns can be very involved as, for example, targeting an ethnic group in the Soviet Union with little access to reception means such as radios. It might be necessary to produce and distribute radio receivers that are simple to

operate, easily distributed, sturdy, and easily concealed. The answer might be a receiver built into an earring. The earrings would have to be of a type popular with the natives, could be produced in many colors, would work on only one frequency, and would have only one switch---to turn the receiver on and off and adjust the volume.

PSYCHOLOGICAL OPERATIONS IN THE CONTEXT OF CHANGING APPLICATIONS OF FORCE

If one accepts that "threats of force" are at the lowest end of the conflict spectrum, then one is dealing exclusively in the realm of PSYOPS. Threats play upon the mind. They are designed to compel a person, a group of people, or a nation to bend to the will of another. Effectiveness of the threat depends on this credibility, and credibility varies widely, being dependent on many factors.

In Europe, for example, a credible threat may be to assassinate a key leader in a democratic country. It is credible because it would be relatively easy to accomplish. Freedom of movement is extensive in Western Europe; crossing national boundaries is simple. In addition, people in Western Europe place a great deal of value on their democratically elected leaders, thus enhancing their value.

On the other hand, European peoples are not receptive to giving up individual freedoms, which makes population control difficult. Western Europeans also know what the application of force can accomplish---Hitler is still remembered. This is all to say that the population is relatively well-conditioned to reacting in the manner desired when an opponent uses the threat of force.

On the other hand, threats of force in other parts of the world have less psychological impact. Iraq, for example, could be expected to scoff at threats of force by Iran or by Syria. At the same time, the psychological impact of the threat of force would be considerably attenuated. There are many reasons for this. First, the government is conditioned to threats of force. Prior to 1979 and the war with Iran, there was considerable threatening of force (as there is between Israel and its neighbors). Second, the use of language that implies the use of force is common in that area. "Death to the infidel" and similar epithets are used frequently. Even the shooting of guns into the air in celebrations in North Africa, a terrifying act to the uninitiated, is part of the language. Third, since force is an accepted way of life to many, its mere threat is considered relatively commonplace. Leaders are accustomed to threats against their lives, but they also have the resources to prevent, comparatively easily the actual

application of force. Bodyguards complement any important person's entourage. At the same time, control over the population is much greater than in the Western democracies. Since many of these countries are also ruled by authoritarian governments, the secret police have broad powers to exercise such control.

TERRORISM

By definition, terrorism is the act of doing bodily or psychological injury, but it is also a psychological act of violence. Such an act does not have to be large in scale; it need only be conducted to have a psychological effect far out of proportion to the act itself. The shooting of the Pope had a devastating effect worldwide; but had the Pope been a simple priest, it is unlikely the news of the shooting would have made more than a few lines on the back page of a local newspaper.

Such exploitation is possible in countries such as the United States where the Constitution guarantees the rights of the press. While the public can be informed, it can simultaneously be manipulated. For example, in North Vietnam during the war, only a few correspondents were allowed to view the "glorious efforts" of the Vietnamese people. These newscasters generally could be counted on to provide a favorable account of what they saw, because what they saw

were carefully chosen pseudo-images that their sponsors wanted projected to the outside world. Since the information was relatively sparse, it was snapped up eagerly by news services around the world. The view the Western public got was that the North Vietnamese were prevailing despite the barbarous acts of the United States. On the other hand, our media coverage in South Vietnam focused on what made news, which more often than not was U.S. and South Vietnamese casualties (bringing one close to the war) or weapons firing at some unseen enemy (an impersonal, seemingly unproductive act). The combination had a great adverse psychological impact on the American people and anyone else who had a television set. The coverage is an excellent example of what could be termed "controlled terrorism" through psychological manipulation of the media.

Manipulation of people in countries such as the Soviet Union is both easier and harder. In many cases, the psychological effects of terrorism can carefully be controlled in totalitarian societies. This is accomplished by censoring material. Unfortunately for the Soviets, as transmission of imagery becomes more complicated. Indeed, in the occupied Baltic states, more television sets today are tuned to Western stations. Education renders manipulation more difficult as people eventually learn that they are being manipulated. They discredit and discount what they hear and see their own governments produce, unless the government appeal to the people has a special compulsion, such as defending the homeland. What

the people hear from other sources then becomes all the more important and credible, which means that they are increasingly susceptible to outside manipulation.

SURGICAL OPERATIONS

Surgical operations are best conducted surrounded by a PSYOPS cloak. That is, the public must be well prepared psychologically for both the sucess and the defeat of a surgical operation. The 1981 fiasco in Iran vividly demonstrates the latter contention.

The use of PSYOPS in surgical operations is threefold: to prepare the public and the enemy for the operation; to exploit the operation's success; and to explain or exploit, the best way possible, an operation's failure. It is generally accepted that a surgical operation needs a good cover or deception plan. This is accomplished by concealing preparations for the operation while conditioning the public for its execution. A deception plan may be employed or secrecy imposed which limits access to information on the operation.

It is equally important that preparations be made to exploit a successful surgical operation. This might include a PSYOPS plan to minimize side effects or to justify the operation. It is easier to justify success than failure, but adequate planning is nonetheless required. Such planning should take into account the possibility of exploiting any positive spin-off that might result from the operation.

New emphasis must be placed on dealing with failed operations. A surgical operation must be "war-gamed" for failure as well as for success. The PSYOPS goal should be to explain the failure as quickly and completely as possible. The agony will, under any circumstances, be intense. Recognizing this, all efforts must be made to have a credible explanation for the failure immediately available, even if the specific reason is not or should not be made known. The explanation must contain all facts that do not reveal operational secrets. It must be straightforward, concise, and devoid of self-flagellation. Answers to logical questions leading from the failure must be anticipated and prepared. Those asking the questions of the government must not be given the impression that anything is being withheld from them, even if it is. Action must be taken to curtail any attempt to prolong the crisis. In these ways, psychological function in surgical operations are always required.

MILITARY ADVISORS

The introduction of military advisors normally comes after diplomacy has proven inadequate to the task; that is, other instruments of diplomacy are insufficient and preparations for physical action are necessary. In a sense, having advisors on the scene would seem to indicate that PSYOPS are less important, but that is not the case. As with surgical operations, PSYOPS can greatly benefit advisors. Before

advisors enter a country, the introduction should be carefully explained both in the host country and in the country from which they came. Credible justification for their presence must be established in advance; this may be done by analysis and exposition of a credible threat. How the host country as a whole, not only the military, is to benefit should be explained. The need for advisors must be clearly and concisely explained so that probable attacks on the advisors can be thwarted.

Once advisors are in the country, their activities must be exploited. How well they integrate themselves into the country's fabric, handle their charges, demonstrate concern for local customs, and mix with the populace should be advertised in the best light possible. Again, this is as important in the United States as it is in the country being aided. Whereas little along these lines has been done in the past, the nature of future conflict will make it mandatory. In the long run, the psychological impact may be more important than the actual training the advisors impart to foreign military establishments.

The integration of PSYOPS with the deployment of military advisors, similar to surgical operations, really is not dependent on the region where advisors operate, since psychological operations are an integral component of the use of advisors. The region, however, will influence the type and level of psychological activity. In El Salvador, for

example, the type of PSYOPS employed depends on the sophistication of the people, the government, and the military. The military lacks the effectiveness to bring peace to the country. It does not have much experience with modern weapons such as helicopter gunships. Whereas the military establishment is not sophisticated, however, the civilian communities in urban areas are. At the same time, the peasants in the countryside and small towns are not well educated. How these diverse elements are going to be reached could tax the best psywarriors in their attempts to exploit the situation to the benefit of the United States. At present, however, there appears to be no coordinated PSYOPS effort in El Salvador to jus .fy the deployment of military advisors.

SPECIAL FORCES TRAINING AND OPERATIONS

If it is important to explain the presence of military advisors in a country and to protect them through a PSYOPS campaign, then it is imperative that the introduction of special forces units be accompanied by adequate PSYOPS preparation. Such introduction intimates the initiation of U.S. participation in combat operations. While the employment of noncombatant advisors may be accepted fairly easily in the United States today, U.S. troops, however few, fighting on foreign soil could be a different matter. The American people must be conditioned psychologically for such intervention.

Historically, American presidents have been ill-served when confronted by the necessity to introduce troops into combat. Repeatedly, a cataclysmic event has been necessary to commit Americans to go to war. The United States being unprepared militarily in 1939 aside, President Roosevelt had to wait until Pearl Harbor was bombed in 1941 to enter World War II. Had the nation been prepared psychologically (and materially) to enter in 1939 when Japan was preoccupied in China, and Germany had not yet invaded Western Europe, the terrible death and destruction worldwide might have been avoided.

This raises the question of conducting formal PSYOPS targeted at the American people. Certainly, the campaign could be considered sound "public relations," but the degree of coordination and sophistication required means, in essence, that the public will be subjected to what are, in effect, PSYOPS. No civilian apparatus exists today to conduct such operations, but there can be little doubt that in the 1980s there will be increasing pressure for one.

PSYOPS has an integral relationship with special forces deployment. Whereas a friendly government requesting foreign advisors can justify their presence to the population in a variety of ways, it is more difficult to justify the introduction of soldiers who may fight---as well as advise. In effect, the foreign government is admitting that the

situation is getting out of control. The introduction of U.S. special forces soldiers means they probably will encounter a hostile environment. Under these conditions, it is imperative both to the survival and effectiveness of special forces elements that they be accepted and supported by the host government. The military or paramilitary groups that the special forces are to assist must be psychologically prepared to receive the U.S. elements. The host group must understand why the special forces are there, what they are expected to do, and how they are going to do it. Once on the ground, the group must be motivated to accomplish its mission or conduct the appropriate training. This is primarily a function of the special forces element, but it must receive PSYOPS backup.

One of the potential difficulties that special forces elements might encounter is PSYOPS planning for disengagement from or termination of their commitment. In this case, there must be measures of progress toward clearly established and perceived objectives. As a political-military endeavor, the move should involve planning at the National Security Council (NSC) staff level, which integrates PSYOPS efforts involving the Departments of State and Defense, the Central Intelligence Agency (CIA), and the Joint Chiefs of Staff (JCS), and a PSYOPS plan to convince those being aided that it is time for U.S. special forces to terminate their involvement.

The very nature of special forces operations presents a particular challenge to PSYOPS support. Distance from viable logistical support is a major factor. Whereas psywarriors may accompany the special forces into an area of operations, many aspects of support operations have to be administered from afar. Leaflet drops, for example, might have to be made deep in hostile territory. Depending on the volume needed, it might entail a major operation to penetrate enemy airspace with large aircraft such as the C-130 or C-141. Advanced technology, however, offers many possibilities. The special forces elements on the ground might be able to distribute, on a selective basis, the exotic receivers described earlier. Special forces, through their own communications net, should have a capability of broadcasting via satellite to the target audience, making broadcasts more timely, geographically relevant, more credible, and thus more effective.

SMALL, CONVENTIONAL UNIT COMMITMENTS

There is another operation short of war, however, which also must be considered. Whereas special forces might be training foreign dissidents, or fighting alongside them, they will not be fighting as self-contained American units, such as conventional ranger batallions, marine amphibious units, or infantry battalions. The latter, the small conventional

units committed to combat, also need the assistance of PSYOPS elements.

A recent example of small-unit commitment where PSYOPS were involved occurred in the August 1981 air engagement with Libya. It is an interesting case of a successful PSYOPS ploy preventing a major confrontation, or war, between the United States and the Soviet Union. Ironically, the ploy does not appear to be the result of a carefully planned PSYOPS program. Nonetheless, what happened is valid as an example of what should occur in the future.

First, the animosity between the United States and Libya has been longstanding (the "no real surprise" factor). The most recent incident prior to the destruction of two Libyan SU-22s was the May 6, 1981 closing of the Libyan "People's Bureau" (embassy in Washington, D.C.). Preceding that by little more than a year was the burning of the U.S. embassy in Libya. If violence were to erupt it would hardly qualify as a major surprise. The threshold for escalation into full-scale war, therefore, was set relatively high.

Second, the American public had been prepared psychologically to accept combat between the two countries. The Reagan Administration had raised American consciousness and sensitivity to those nations who would "step on the toes of the United States." It is not that Americans were spoiling for battle; rather, after the Iranian hostage

situation, there were few people in the country willing to see the United States humiliated again.

Third, the United States psychologically prepared the rest of the world, including the Soviet Union, for any confrontation. This was done through the media, through military channels, and by economic means. The United States let other countries know that it would obey international law but would not be intimidated by bombastic measures.

Fourth, the Sixth Fleet maneuvers were conducted within strict guidelines. The commander of the U.S. task force reviewed the rules of engagement covering the circumstances under which a pilot could fire at an adversary: shoot only if attacked. By following the script exactly, one could document--and justify--every action involved in any provocative act. This was a form of immunity against PSYOPS. When the results of the aerial encounter were made known to the world, there was little protest. Even Libya did not react violently. There were few gray areas that could lead to factual distortions constituting a propaganda weapon against the United States.

Fifth, after an initial uproar, the matter was closed for most of the world. Libya was still smarting, but the United States simply focused on different issues. Through PSYOPS efforts, the air battle was downgraded on the conflict spectrum from the higher-intensity unit commitment to that of a surgical operation.

PSYOPS can serve in high-intensity war as a means of limitation. A recent example is found on the eastern sector of the 1982 Israeli "Peace for Galilea" Operation. Against a Syrian enemy much more disciplined and better armed than in previous Middle East wars, the IDF sought only the withdrawal, not the defeat, of Syrian forces. Diplomatic messages were sent repeatedly to President Assad through foreign intermediaries (including the U.S.) stating that the IDF sought only the withdrawal of Syrian units. On the ground, IDF rules of engagement were to remain 5 kilometers away from Syrian units and to permit their withdrawal where possible.

WAR

PSYOPS in any kind of war serve as "multipliers." Whether war be limited conventional war or general nuclear conflict, there is an important place for PSYWAR across the entire spectrum. The employment of PSYOPS, although not generally recognized as such, can be as decisive as many of the most significant new weapons now in the U.S. and Soviet arsenals. One of the most important uses is to prepare the public for the hardships and losses of war, which can be done by appealing to such concepts as patriotism and self-sacrifice. America's participation in both world wars was accompanied by extensive sloganeering and pamphleteering. All nations, indeed, used psychological operations to gain backing for their war efforts.

Second, PSYOPS can be used to weaken the will of the enemy. Army PSYOPS units are trained to exploit enemy weaknesses. Targeting ethnic differences, for example, can cause dissension and strain within the enemy's ranks, especially when morale is low. This in turn seriously degrades combat capability. Alexis De Tocqueville told us that "democracies go to war at their own peril." He meant that armies of democracies must have the support of their republics or their morale becomes degraded. PSYOPS can be used to undermine public support and, thus, to demoralize the enemy's fighting forces.

Third, PSYOPS can be employed to coax others to come to one's aid. Great Britain was especially successful in bringing the United States in on its side in both world wars. This can be achieved by exploiting enemy PSYOPS failures such as the German U-boat campaign. An operational success, the campaign had the opposite effect by enraging, not demoralizing or intimidating, the American public.

Fourth, the use of deception, an important combat multiplier, serves as a form of PSYOPS. Whereas loudspeakers have present and future tactical deception uses, satellites and multimedia dissemination means have present and future strategic deception uses.

The prognosis for the use of PSYOPS in potential conflicts in the 1980s is high. The Soviets are masters in its employment. The United States and its allies are bombarded daily with hostile PSYOPS weapons, many of which we are unable to recognize. The United States cannot help but lose any war in which it fails to exploit its PSYOPS.

WHAT IF?

Proper utilization of U.S. PSYWAR assets to the Year 2000 requires increasing relevant U.S. capability. The following represents a list of requirements for the PSYOPS community which will help enhance that capability.

1. An expansion of American civilian and military PSYOPS forces. A civilian PSYWAR agency is required. Whatever its name, it would conduct PSYOPS as an independent U.S. agency in time of peace and subsume the military effort during war. Further, the active army should greatly expand its PSYOPS assets. The reserve forces need to be equipped with modern training devices. Probably a tenfold increase in military PSYOPS manpower is required.

2. The development of inexpensive high technology items such as radio and television receivers. If the "chip" can revolutionize the computer industry, it certainly can revolutionize the image reception business as well.

3. The exploitation of communication networks for PSYOPS purposes. The expanded use of communications satellites is particularly needed to extend the range and scope of radio and television. The state of the art is such that this is possible, and the necessity dictates development.

4. The expansion of data banks and word processing equipment. This could permit accurate and swift compilation of the data needed to formulate PSYOPS programs. Fleeting targets of opportunity cannot be engaged, for example, because the necessary data cannot be accumulated and processed fast enough to exploit such targets. The automated battlefield is as important to psywarriors as it is to artillerymen and tankers.

Most of what is required lies within the realm of the possible today. With appropriate emphasis on PSYWAR by the government, all should be obtainable.

APPENDIX F

TERRORISM:

THE CHALLENGE TO THE MILITARY IN THE YEAR 2000

DIMENSIONS OF THE PROBLEM

One of the most serious and growing problems which our country faces is terrorism -- terrorism which attacks the very foundations of democratic society. Hardly a day passes without a terrorist incident occuring somewhere in the world; it pervades the fabric of contemporary civilization. Although the United States has not so far been a primary target of attack, any optimism that this benign state of affairs will continue is misplaced. Terrorism has, among other things, become part of the arsenal of international warfare, recognized as a useful tool of low-intensity conflict. As a surrogate means of warfare, terrorism also becomes a tool of strategic importance. We must recognize the promotion of such violence from the level of a criminal act or political nuisance to a matter deserving serious national attention.

The significance of the terror act has been raised exponentially by several different but interrelated factors. First, the tools available for destruction are suddenly much more lethal and much more frightening than ever before. Second, the media attention focused on terrorism is immediate, global and usually undisciplined. Third, motives for terrorist attack today span a spectrum that includes, at the extremes, personal grudges and superpower ambitions of global hegemony -- and there is little certainty as to which underlying motive may really be at play in any particular case.

Finally, this nation (unlike others in the Western Alliance) has no internal consensus on how to respond to either acts of supercriminal violence or coercive political threats; has no common philosophical basis for accepting the high costs (in lives, materials, pride and power) of occasional failure in dealing with terrorism; and has no internationally recognized commitment to firm, retributive deterrence of such violence.

Neither the civil nor military authorities can remain aloof from the terror threat. Terrorists attacked the heart of the American system when the President was forced to retreat into a "steel cocoon" as a result of threats by a Libyan death squad. Our chief foreign policy objectives were endangered when terrorists -- through the attempted assassination of General Kroesen and kidnapping of General Dozier -- attempted to play off growing fears about nuclear weapons in Europe.

Our military forces are not immune from the terrorist threat. The next set of targets will undoubtedly be military: first, because the military abroad represents a vulnerable target; second, because it is a clear symbol of U.S. strength; and finally, because the weight of historical evidence points in that direction.

These kinds of threats will likely expand during the coming decades as the age of great power dominance is replaced by a more fluid pattern of international relations.

As power and influence become increasingly diffuse, the traditional mechanisms of restraint will become decreasingly effective. We should expect that the very diversity of actors on the world stage -- each pursuing their own interests -- will expand the opportunities for international conflict.

In an ambiguous and complex environment, unconventional warfare via terrorism becomes an attractive policy instrument. Used as a strategic weapon, the vectored terrorist threat offers certain unique advantages. Although unimpressive in firepower, it is profound in leverage. For the relatively weak, the high leverage/low cost factor is essential since they cannot afford to compete militarily or economically. For the more powerful, the high leverage/low risk element is decisive since the costs of large scale conventional or even nuclear confrontations are unacceptable. Too, the initial uncertainty about the origin of attack often limits the full range of diplomatic and military responses. For the Soviet Union and its proxies -- certain of the radical national and sub-national groups on the terrorist scene -- terrorism may offer an irrestibly low cost, low risk means of engaging the West in low-intensity conflict.

Current military doctrine does not stress the understanding of terrorism and unconventional warfare. Rather, it deals with the measurement of power in terms of ships, aircraft, tanks, large artillery pieces, and troops -- in a conventional warfare setting. It focuses on the forward

edges of battle, presuming comparable conduct of the enemy. But terrorists do not adhere to the understood traditions of conventional warfare; they employ criminal tactics in an elitist setting.

In the case of the Iranian embassy seizure, none of our conventional policy tools achieved success. Diplomacy, economic sanctions, international condemnation, and the prestige of America failed to move the Iranians. The final embarrassment -- and eventually the loss of the Presidency for Jimmy Carter -- took place in the Iranian desert. All that was left was a "rug Bazaar"; negotiating the price to release the hostages.

No atomic bomb could help. America failed diplomatically and militarily to deal in proportionate terms with terrorists and a national disaster was the result. Though in fact an unfair perception, our military appeared impotent, capable only of inflicting nuclear carnage.

The Iranian episode is not an isolated matter. Viewed as a form of warfare, as unimpressive in firepower terms as it was, such incidents and other highly leveraged terrorist assaults may become the norm of conflict in the 80s. Terrorist attacks are not clean. Often covert at the onset and difficult to predict, terrorism has become a new breed of low intensity conflict, making large-scale conventional and nuclear warfare the likely consequence of failing to cope at a molecular level of violence.

The Terrorist Network

The Soviet Union and its proxies have historically provided funding and support for international terror. In the late 1960's, for example, Mexican guerrillas received training in North Korea and North Vietnam. In the early 1970's, African insurgents fighting the Portuguese were trained in the use of sophisticated weaponry, including ground-to-air missiles, by Soviet officers at bases within the Soviet Union.

Throughout the 1960's, the Soviets underwrote Cuban training programs in which Third World youth were given instruction in guerrilla methods. Similarly, in the 1970's, most of the Soviet support for terrorist groups was channeled through client states and other intermediaries. With tacit Soviet approval, terrorist groups have trained together not only in Cuba, but also in Libya, Iraq, South Yemen, and Lebanon, to name only a few.

Terrorism, however, is too complex an issue to be explained away wholly as a Soviet "master conspiracy." Even if the Soviet Union withdrew all its patronage, terrorist activity would certainly continue, perhaps unabated. In addition, the Soviets have the problem of assessing how much terrorism is enough. Their preference would be to paralyze, not mobilize, the West but the latter rather than the former may occur if

terrorist acts are too frequent or traceable to the Soviet Union. And, if the Soviets create multiple intermediary layers to prevent detection, they also sacrifice control.

Because the terror weapon represents a useful tool for low intensity conflict, it has gained independent patrons, the most prominent being Libya. In the summer of 1972, Colonel Mu'ammar Qadhafi, Libya's ruler, began openly to boast of his contributions to world terrorism. He added that he would be happy to supply weapons to American blacks, "unfurling in the United States the banner of the struggle against American racism." Libya has become involved in Central America and Venezuela -- having gained some influence there with the media and with a number of ranking officials. This kind of link is of primary benefit to Libya in its quest for a leadership role in OPEC. Although there may be tacit support fo Libya from Moscow, there is little or no evidnece that Libyan activities are plannned or directed by the Soviets.

A number of subnational terrorist goups --perhaps as a result of previous training -- have now matured into self-sustaining organisms that pose a separate threat to U.S. interests. Although these groups are not mirror images of each other, there is a broad community of

interests among them, and informal alliances have often occurred. Palestinian and German terrorists cooperated in the 1975 OPEC hostage incident and the Entebbe sky-jacking. It has been speculated that the Red Brigades received support form Germany's Red Army faction in the Dozier kidnapping. The PLO has provided aid and assistance to the Japanese Red Army (and were perhaps repaid in the Lod massacre). The result has been that a loose confederacy of terrorist groups operates quite successfully against targets of its own choosing, without the limitations that centralization would impose.

The Media Multiplier

The impact of terrorist acts is amplified enormously by the electronic media. Both government and terrorist alike operate in the glare of the media spotlight. Without such attention, the outcome of an incident is relatively insignificant. The militants in Iran recognized this as an essential ingredient for success and acted accordingly. By encouraging regular media coverage, the terrorists made the torment of the hostages an integral part of everyone's life. The 54 hostages quickly became so well known that any action by the United States that could have jeopardized their lives would have engendered severe political penalties.

The Tylenol poisonings provide another clear indica-

tion of the power of the mass media to generate widespread anxiety among the general population and outright terror in a small portion. Although the perpetrator was apparently a single individual, he or she gave the United States a profound lesson in "terrorism theater." Despite a relatively small death toll, the incident dramatized the possibility of much more widespead horror from malicious imitators.

Precisely because the Tylenol incident was a case of low-technology poisoning, the vulnerability of every American to a similar action by organized and technologically more sophisticated terrorist groups was demonstrated. It is unnecessary to wonder whether terrorist organizations would resort to such tactics. They already have -- and in the United States. This occurred only a few years ago when Palestinian terrorists poisoned a shipment of Israeli oranges to this country. The only reason this incident did not receive the media coverage given the Tylenol case was that the terrorists announced what they had done before the oranges had been moved from the docks and warehouses to the food stores. Unlike the Tylenol killer, the Palestinians were unwilling to adopt a policy that would involve killing U.S. citizens to gain media attention.

Future Avenues of Attack

When airline hijackings or kneecappings lose their media "sex appeal" -- or when governments learn to counter the more commonplace terrorist attacks with specialized rescue teams -- terrorists will look for new targets of attack. Although amateurs may continue to rely on time-tested tactics like sky-jacking or embassy seizures, the imaginative, professional terrorists will alter his methods to ensure surprise, panic, and media attention.

A number of avenues for future attack are open to the professional:

- attacks on the infrastructure of metropolitan areas (systems such as the electric or gas networks, communications or computer facilities);

- threats to thousands of people with agents of mass destruction (nuclear explosives, chemical, or biological weapons);

- subtle exploitation of contentious political issues such as the antinuclear and environmental movements.

Attacks on Infrastructure

As Western civilization has grown dependent on technology for survival -- and the technological infrastructure has been streamlined for efficiency and low cost -- society's vulnerability to attack has increased. Electric generation and distribution systems, computer networks, nuclear installations, port facilities, water systems, and oil refineries provide leverageable targets.

Attacks on infrastructure have already occurred. The New World Liberation Front has targeted Pacific Gas and Electric some 70 times, albeit with minimal damage. The Red Brigades attempted to knock out the electric power system in Rome following the Aldo Moro kidnapping, but created only a minor power failure. Nuclear power stations in Spain, France, and Germany have been unsuccessfully attacked. A raid on a FALN safehouse prior to the 1980 Democratic National Convention turned up detailed plans of the power system of Madison Square Garden, perhaps signaling a plot to black out the facility and disrupt the electoral process. To date these terrorist attacks have been largely ineffective, but they raise the prospect of very large disruptive effects being created with very few human and material resources.

Without too much detail, we can describe a number of areas of extreme vulnerability. The electric power grid, for example, relies on large transformer systems, the components of which are no longer manufactured in the United States and for which there may be three to five year reorder lead time. Induced power failures, in turn, can affect the reliability of our interlocking computer networks, potentially erasing large sections of irreplaceable operational and technical stored (memory) data. There are, in addition, a few junctions from which the entire network of national oil and gas pipelines can be disrupted. Moreover, critical components within the U.S. defense production system are themselves vulnerable to attacks of quite elementary sabotage. For example, this country maintains only two very large extrusion presses on which the titanium-based aircraft industry depends and only one facility where all of the gun tubes for both the Army and Navy are produced. These are only a few examples of the "vulnerable nodes" that abound in the United States.

It is vital to recognize that this type of internal threat endangers more than our standard of living or industrial productivity; it has had long range national security implications for military preparedness and mobili-

zation capability. The military, like the civilian sector, operates on the assumption that reliable technological infrastructure -- telecommunications, transportation, potable water, and electrical power -- is guaranteed. There is growing evidence that training for attacks on this vital infrastructrue is being developed and refined by terrorist organizations. Some governments may have the necessary contingency response plans, continuity of goods and services in their societies; the United States does not. The lack of a credible response capability can serve as a stimulant to terrorists as they select the most vulnerable targets.

Weapons of Mass Destruction

Another avenue for terrorist attack is the threat of mass destruction. Although readily available biological and chemical agents have remained largely unused, they represent the terrorist's easiest route into the mass destruction arena.

In contrast to the concern over nuclear materials, the control and safeguard of chemical and biological agents has not been given adequate attention. It is far easier to culture anthrax than it is to steal or fabricate a nuclear device, and a biological attack is potentially more lethal than a nuclear explosion. A small nuclear device

could kill a hundred thousand people if detonated in a dense population center. By contrast, an effectively delivered aerosol anthrax attack could rival the effects of a thermonuclear device. Indeed, biological weapons may become a "poor man's" bomb in an age of nuclear proliferation.

Although the penalties for using agents of mass destruction may be too high for industrialized and developing nations, extremely poor national and sub-national groups may be less cautious. It is important to recognize, too, that a successful threat does not necessarily require the actual use of such weapons. The extortion potential will always be high where the capacity for mass destruction is present; hostage situations of the future may involve entire populations.

Politically Sensitive Targets

An equally plausible, albeit more subtle, means for terrorists to heighten their leverage involves the careful selection of highly symbolic targets within the international community. The level of violence remains the same, but the effect is expanded dramatically.

The attacks on General Droesen in Germany and General Dozier in Italy represent a new form of "cushion shot" terrorism. Dozier was not merely a high-ranking official whose kidnapping might seriously embarrass the U.S. government, he was a symbol of the Western alliance.

His kidnapping was designed to provide the Red Brigades with power to influence, through the media, the outcome of issues of great political import: the structure of the Western alliance and decisions on theater nuclear force modernization.

By attacking Dozier, the Red Brigades placed themselves in a position to influence a range of targets -- the military, the U.S. government, the Italian government, even the NATO alliance. Using the media as a springboard, the terrorists attempted a "cushion shot" to capitalize on the political strains in the alliance and the growing worldwide antinuclear movement. Had the terrorists chosen another day -- not one in which events in Poland and the Golan Heights overshadowed their drama -- the U.S. government as well as the entire alliance might have been even more seriously embarrassed.

The Dozier incident highlighted the fact that strains within the alliance are natural targets for exploitation. In the same way, Colonel Qadhafi's threat to attack a weapons storage facility in Europe after the Gulf of Sidra incident played on the widely held concerns about the presence of nuclear weapons in Europe.

Closer to home, there is the growing antinuclear movement, environmentalists who see the government as unsympathetic to their concerns, black and American Indian groups who believe that their power in the U.S. political system is eroding, and newly-arrived immigrants

(Serbo-Croatians, Iranians, and various Latin Americans) who may begin to play out their grudges on American soil. In brief, there is no shortage of social and political discontent that may find its outlet in terrorist acts and no shortage of highly visible targets for the imaginative terrorist.

MILITARY PROBLEMS AND CHALLENGES

The threat of terrorism as a form of low intensity conflict requires serious consideration of the proper role of the U.S. armed forces in responding to the challenge. It is important to recognize that, during wartime, the terrorist act has little significance. The military's problem arises during peacetime or during the precarious transition periods when demoralizing and destabilizing acts of sabotage against key command and control centers of key industries could affect the outcome of the conflict.

It is clear that the armed forces of democratic states must be used with great care to provide a reasonable degree of protection against the incidence of ideological and political violence without damaging permanently the society they seek to protect. Whether the Army is countering terrorism at home or abroad, good working relationships with the media (and by extension,

the public) are important to avoid jeopardizing the successful resolution of any incident. Moreover, the deployment of American military forces domestically or internationally is limited by legal constraints and political tradition.

U.S. laws grant primary responsibility for the preservation of civil peace to the civil authorities. Although the Department of Defense functions in support of both domestic and foreign counter-terror operations, legal stipulations strictly limit the use of military units in domestic situations. The 1869 Posse Comitatus statute specifically restricts the domestic use of federal military force in the law enforcement role. Paradoxically, this regulation, although originally designed to assure civil safety, may play a counter-productive role by one day endangering the lives of Americans held in peril in a large-scale terrorist situation within U.S. borders. Under other provisions of law, however, the President may call for a military response at home if a domestic terrorist force is beyond U.S. non-military capabilities.

In such large scale incidents, the Army has traditionally played a role in supplementing the police authorities, the National Guard and other reserve forces. A successful attack resulting in tremendous economic or social disruption -- for example failures of banking, computer or electric power systems -- may require Army participation just in terms of the sheer manpower needed for establishment of order and a return to stability. Similarly, the Army can field specialized rescue teams -- like DELTA Force -- in situations beyond the scope of the civilian authorities.

This division of responsibility, which at times poses jurisdictional ambiguity, calls for a clear national policy and improved organizational interface. The proposed Memorandum of Understanding involving the Department of Justice, the Department of Defense and the FBI on the use of military force in domestic terrorist incidents may go far in resolving this question. On the other hand, the existence of an MOU cannot guarantee that all jurisdictional questions have been adequately resolved: the web of overlapping responsibilities among the local, state and federal authorities may only be fully understood as the result of extensive "gaming" to provide near real experience in alternate uses of power and resources.

The international ramifications of terrorism pose an equally great challenge to military planners. The DOD is currently equipped, through its DELTA Force, to handle

some classes of hostage situations, but these represent only a narrow band on the terrorist spectrum. Larger extortion threats could present new vulnerabilities. What would be the political response -- and subsequent military task assignment -- if there were a successful terrorist attack on a nuclear storage site in Europe or the theft of a nuclear weapon (as Kadaffi certainly threatened after the Gulf of Sidra incident)? Even a marginally successful attempt, i.e., one that managed to inflict minor damage could trigger a chain of events that might seriously affect our entire foreign policy posture.

By no means should the military be expected to respond in isolation to such an act. A terrorist operation of this magnitude would, by definition, involve the President and the civilian national leadership, thus implicitly determining the military's supporting role. What is required, however, is basic contingency planning, an important step towards responsible crisis management.

The objective of such contingency planning is not to prepare for specific crises, but to develop modes of operations and an awareness of available resources, to gain quick access to those resources and understand the logistical difficulties in using them. Having matters in hand, or at least appearing to have them so, implies

advance preparation. An effective crisis management structure requires joint planning and ironed-out jurisdictional questions between the armed forces and civil authorities. Joint gaming exercises, aimed at developing smooth, working routines in crisis conditions, is one essential requisite. The creation of a professional U.S. "Red Team" of imaginative simulated terrorists, providing realistic training and testing opportunities at many levels of threat is another. A further exploration is the use of technology to harden the target, to reduce the terrorist's capability for damage and to deny him the leverage he seeks. There is no single analytically definable measure of effective response. Adequate intelligence, physical security, contingency planning, reinforced by "gaming" exercises are critical components of capable crisis management. Each of these tools require attention as instruments of an overall policy of preparedness.

Because counterterrorist intelligence is an essential component of responsible response, the military must either assure that its interests are being adequately represented by the agencies responsible or, in the case of foreign intelligence (where it is less hampered by legislative constraints), develop its own internal

intelligence and analytical assets. The Defense Department has largely been out of the business of political intelligence collection and assessment, relying on the CIA or FBI to meet its needs. The key issue, however, is interagency, high-level recognition of the need for a new, continuing intelligence program that addresses domestic and foreign terrorism in an integrated fashion.

Moreover, the Army's requirements to be able to cope with conventional and unconventional terrorism at home and abroad will probably require a new level of anti-terrorist training. This will likely begin with emphasis on self-defense and unarmed combat and expand to include intensive exposure to urban warfare tactics, CBW defense, and night and bad weather operations. maneuvers and war games -- both unilateral and multilateral -- should be integrated into the training process. These exercises should test the viability of terrorist attacks against important political targets such as federal installations, embassies or highly visible commercial facilities such as offshore oil rigs, airports and refineries.

As another line of defense, the military must upgrade its physical security. While it cannot prevent every terrorist attack on its personnel or property, it can

certainly deter some incidents. Protective measures could include, inter alia, dispersal of potential targets, improved design of sensitive detection systems and rapid controlled reaction capabilities.

Much technology applicable to military management of terrorist events is available and new technology can usually be developed to deal with the specific new terrorist threats and operational problems. For example, one could tag commercially available explosives and trace them: this, however, would not necessarily allow traceability of homemade explosives. Sensor technology could be deployed more widely, but with the potential of a higher than desired level of inaccurate alarms. In applying technology to the control of terrorism, a key question is the assessment of the threat: what are the technological capabilities of the terrorist, which of our priorities should dominate our response (e.g., which dangers are small and which are large, which defenses are affordable and which are not).

If a threat is perceived to be credible and serious, and appropriate countermeasures are deployed, perceptions of that threat can subsequently change -- and public opinion may follow. Thus, not only the initiation, but also the maintenance, of technological countermeasures,

depend on the perception of a need as well as on the reality thereof.

Assessment

On the basis of the foregoing, the following propositions are offered:

1) Unlike their historical counterparts, present-day terrorists have introduced into contemporary life a new breed of violence in terms of technology, victimization, threat and response. The global extent and extraordinary brutality that characterizes modern violence make it abundantly clear that we have entered a new "Age of Terrorism" with all its frightening ramifications.

2) Terrorism is a theater, and, consequently, terrorists will make conscious and deliberate efforts to manipulate the media for their intended effects. Should the public become bored, terrorists are likely to escalate to unprecedented levels of violence to attract more attention.

3) The political processes are in growing diasrray with the traditional networks of intra- and international relations collapsing without alternatives in place. The temptation to rely upon unconventional action mechanisms to achieve conventional political ends is becoming irresistible.

4) A loose confederacy of subnational groups will continue to seek ideologically based or single issue goals.

But the terror event will increasingly be co-opted by radical Third World states as a tool of foreign policy and by larger powers as a means of surrogate warfare.

5) Terrorists operating today are better organized, more professional and better equipped than their counterparts in the 1970s. They are likely to take greater operations risks in the 1980s and 1990s; there will be no immunity to the noncombatant segment of the world population, or to those nations and peoples who have no direct connection to particular conflicts or to specific grievances that motivate acts of violence.

6) The advances of science and technology are slowly turning the entire modern society into a potential victim of terrorism; as commerce, industry, transportation, and communications become more complex they also become more susceptible to unpredictable and highly technological disruption/disablement schemes by bands of determined and sophisticated terrorists. Since more ideological and political violence can be anticipated, terrorism will continue to challenge all segments of society and state.

7) U.S. military personnel, facilities, and operations are becoming most attractive targets both in the U.S. and overseas. Although small-scale targeting of the armed forces has characterized the past, the vulnerability of military organizations will increase as the United States becomes more terrorist-prone and as

the prospects for regional and global turbulence grows in the next two decades. Operations against U.S. military forces could arise not only from extremist subnational groups but also from local insurrections and terrorism at the behest of foreign states.

8) There are no simplistic solutions to the problems of terrorism in the 1990s. All we can do is to learn how to cope with the problem both on the conventional and unconventional levels. The command, control, and communication problems will be the paramount challenge to modern societies in the 1990s. So far, our efforts have been woefully inadequate.

9) Unless civil and military authorities in the U.S. jointly mobilize all available forces to assess seriously the vulnerabilities of our societies to the growing dangers of terrorism and develop adequate strategies and capabilities to deal with the challenge, the U.S. may expect to join its European allies as a victim of terrorism, playing the unwilling co-star in a media event which undermines our credibility internationally. Unless the U.S. learns to deal at home and abroad with the phenomenology of terrorism in the longer term, it should expect to see its substantive strength sharply reduced as terrorism replaces conventional hostilities in the international allocation of power.

10) The role of U.S. military forces in the 1990s must evolve and adapt to meet the changed domestic and

foreign conditions created by the institutionalization of terror. That new role will fall largely to the Army, in that the other services are most naturally limited to protection of their facilities and equipment. In essence, the Army can be expected to have to develop a coherent para-doctrine of its own to deal with the spectrum of terrorism at home or abroad, in support of domestic policies or international commitments. As the boundaries between conventional and unconventional warfare blur, as the distinctions between police control of criminality and military control of hostilities become less clear, the Army -- active duty and reserves -- represents the nation's logical instrument of physical protection against, prevention of, and response to terrorist activities on scales that involve the national interest.

ENDNOTES

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APPENDIX G

TECHNOLOGY AND LOW-INTENSITY MISSION REQUIREMENTS

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INTRODUCTION

Any useful discussion of technology in its military role needs to refer, ab initio, to several basic postulates: what wars are we willing or forced to fight--and therefore must arm against? Can we define "readiness" at various levels of engagement in terms that help determine how much force (and what kind) must be available at the point of conflict? In short, this is the classic "requirements" dilemma faced by all military organization. What is the threat I face, what response do I wish to make, and how can I assume the highest probabilities of success?

It appears, to a first order, that there may be three different kinds of Army needed to cover the necessary scope of probable US military actions and responses. The dense European conventional war, perhaps leading to nuclear exchange, is the best prepared, most dangerous but least probable battlefield. War in the Third World, opposing Soviet, surrogate, or other forces to achieve US political or economic objectives, is seen as the most probable. Finally, another class of likely conflict should be considered: the use of Army forces in an anti-guerilla (urban or rural) pacification or police action campaign--including within the United States.

Technology is much at play in the calculation of mission requirements, even at the most primitive level of analysis. The technological issue is to what extent these armies differ in hardware/software requirements and the availabilities within the society of skilled manpower, manufacturing capacity and managerial capability to meet those requirements.

The Army today is focusing the majority of its effort on a future NATO war against the Warsaw Pact in Western Europe. The Army has defined that war as demanding very high levels of technological sophistication on the part of the numerically weaker side in order to "penetrate the fog of battle" and bring force to bear successfully against every echelon of the hostile polity. This presumes, tacitly if not explicitly, that "conventional" war in Europe will, if either side feels fundamentally endangered, degenerate rapidly into an all-weapons conflict -- chemical, biological, radiation, and finally strategic thermonuclear exchange.

If this presumption is accurate, the Army is proceeding to modernize along a line that hopefully will never be employed: the logic is to present such a posture of technological and manpower readiness as to promise unacceptable damage to hostile attackers constrained to "conventional" weaponry. This promise, to be effective, must be real; the men, material, and tactics have to be in place in order to provide both the tripwire function and the certainty of immediate, effective resistance without reliance on overseas resupply.

HIGH TECHNOLOGY POSSIBILITIES

It is this future potential European battlefield that is becoming the driver for sophisticated new Army technologies for all army missions. The emphasis remains on overcoming the perceived enemy advantage -- a superiority of numbers and the choice of when to begin fighting -- by multiplying the effectiveness of the machines with superior quality. As an extreme example of approach, we can postulate crewless tanks responding to rear echelon remote command and "smart" enough in their own right to pose serious problems for an enemy. The crewless tank is a rather different tactical machine than the manned tank: it is tireless; it "sees" in all weathers; it is a mobile weapons platform not constrained by crew protection needs. Take three people out of today's tank; replace their eyes with sensors and their judgement with remote control; eliminate the weight and volume dedicated purely to the physical well-being of the crew -- and you have a new kind of warfare tool. It is low, light, and above all, expendable. It can carry many forms of weaponry -- guns, beams, chemical; it can self-destruct defensively or aggressively; it can threaten economic asymmetry of the battlefield if fielded in large numbers. Furthermore, it is not technologically impossible. The Soviets first operated an automated rear-echelon-controlled moving vehicle

of great sophistication over 10 years ago -- and that was at a range of 250,000 miles on the moon, not just 25 miles away on the surface. The inevitable advances in sensors, communications and information management allow us to predict with confidence the development of such robotic military equipment.

The Army must, nevertheless, recognize its inherent limits; it can only absorb and deploy new capabilities at an evolutionary, not revolutionary, pace -- particularly if it must remain combat-competent at all times. Which, then, of the many exciting capabilities should the Army consider as reliably available if desired for the nearer term, and which technology should be pursued with the intent to deploy when and if proven -- and necessary -- in the post-2000 period?

The US Army faces today what may be a unique challenge -- and opportunity -- in reshaping itself during the chrysalis decades of the 1980s and 1990s to be an efficient force in the first part of the twenty-first century. We must remind ourselves that such a time horizon is far from extravagant when dealing with the deployment of numerically significant hardware systems embodying new technology. To the sum of the inherent, or actually incompressible, leadtimes (for research, exploratory development, vulnerability determination and countermeasure design, full scale development and production) must be added the less fixed but equally real elements of lead time

associated with the bureaucratic and political decision process (inside and outside the Pentagon), the inefficiency of the budgeting and funding system, and the institutional military problems of supplementing the old with the new (in terms of strategy and tactics, doctrine, logistics, troop training and familiarization, and professional acceptance). If one postulates the lowest meaningful level of technological change -- say, for example, that caseless small arms ammunition were proven after 10 years' of research to be safe, cheap, light, strong and extractable -- it is not difficult to trace the complications involved in a decision to exploit this technology which halves the weight (and therefore can double the supply) of small arms ammunition. First, a new family or series of weapons (light and heavy machine gun, assault rifle, sub-machine gun, and personal defense weapon) would need be selected, designed, developed, tested, and produced -- to replace, eventually, the enormous amount of materiel currently in use that is organized around the technological principle of the primer-fired obturating brass cartridge case. Second, switchover would have to be managed to avoid the paired nightmares of being caught with inadequate supplies of <u>either</u> type of materiel -- or having to maintain dual logistic systems under wartime stress. Third, the new industrial base needed to assume continuing ammunition availability would need be developed and put in place -- with all the usual economic and political considerations in mind. It is clear, therefore, that a simple but radical change in the effectiveness and cost of the Army's lowest class of consum-

able military materiel could take a decade of R&D (perhaps already behind us) and more than another decade to implement. The Army, at this level, suffers from the curse of great numbers; it is much easier (and faster) to stretch technology to the ultimate in a single example (such as a space mission to Jupiter) than it is to assure new ammunition for a million or so troops.

Technology Projections

Based on these two admittedly extreme examples, we note that either the law of very large numbers or the law of very large changes operates against the inclusion of certain kinds of technology in the "mid-term" 1995 Army. That Army will be reliant upon the hardware and software under active development today. If history is any guide, we will be surprised in the '90's by the unexpected success and military leverage of some new systems and quite unable to account for the disappointing progress in others. While normative technological forecasting is not the basic purpose of this paper, it may be useful nevertheless to structure a set of opinions on what the Army might be able to count on in the non-nuclear, mid-term European scenario, given imagination, determination, and flexibility over time.

-- light (less than 20 ton) fast, armored, wheeled, two-man fire-power platforms carrying "smart" (self-guiding) gun and rocket-launched anti-armor and anti-personnel munitions.
-- toxic chemical warfare reserve capabilities based on relatively

safe-to-handle binary materials and adequate post-use decontamination techniques.

-- intricate but redundant communication architectures providing nearly complete, nearly jam-proof links to and between company-size units.

-- cheap, reliable, numerous drone flying machines for sensor platforms, stand-in and stand-off weapon delivery, deception, electronic warfare, and communication relays.

-- fire-and-forget anti-armor and anti-personnel weapons, both direct and indirect fire.

-- improved mines and mining techniques.

-- adequate but vulnerable electronic warfare (jamming and deception) capabilities.

-- rugged heavy lift helicopters and STOL transports in small (and probably inadequate) numbers.

By elimination, then, there are a number of desired capabilities that should be presumed unavailable until later, perhaps the future Army of post-2000. These include robotic machinery; brilliant target-selecting munitions; electro-optical weapons and defenses; biological immunity to toxins; maintenance-free rotating machinery; fuel-efficient engines; unconventional fuels; adequate defense against tactical ballistic missiles; non-propellant-based small arms; guaranteed squad- and soldier-level communication; EMP-proof electronics; and an integrated man-machine-logistics capability for independent long-distance military operations. Each of these represents a system-or

subsystem-level of integrated new technologies which must be pursued with priority but should not be relied upon too early in strategic or tactical planning. The greatest challenge, of course, is not in selecting individual technologies to pursue or even system developments to initiate; it is assuring that the new or replacement capability is: a) a real improvement, b) much less vulnerable, and c) actually useful in the event of having to be used.

LIC FORCES

Rapid Deployment Force

From a survey of the political projections to the end of this century, it appears that the US Army is most likely to be called upon to fight as a Rapid Deployment Force (RDF) projecting military power to achieve specific objectives overseas.

The nature of the enemy to be met is an important consideration in itself: the RDF must be prepared to meet, in any given region, 1) indigenous military forces supported by their own population; 2) forces masquerading as nationalists but in reality surrogates of a third party, Soviet or others; 3) paramilitary activities stemming from a variety of cultural and political irrendentist, nationalist, and revanchist sources; and 4), major power forces operating in a third country, with or without local support. The potential range of hostilities, therefore, encompasses virtually every case from politicized guerilla warfare on the

model of Malaya or the Kurdish freedom movement through proactive policies in the Carribean to confronting Soviet land and air power in Iran, Pakistan, or India.

Under these circumstances, the RDF must be extraordinarily flexible and competent along the entire operational hierarchy short of all-out war. The RDF should not be structured like an assault team designed to create bridgeheads for later exploitation by routine reinforcement. Rather, the RDF must partake of the character of the 19th century punitive expeditionary forces -- with emphasis on mobility over any terrain, in any weather, independent of bases and supply times, and charged with achievable relatively short-term political and military objectives.

The technological demands upon the Army for this sort of force are enormous -- and are not being addressed today with the intensity they deserve in the light of the probability of RDF-class conflict occurring or being called for in the net US interest. Perhaps the most critical new technology will be that of "smart-to-brilliant" weapons -- attack and guidance systems that make munitions the masters of the battlefield. The enormous danger here is a doctrinaire over-reliance on a technology not yet in hand nor deployed. It took some 15 years to evolve the initial Sidewinder tail-chase air-to-air missile into a head-on weapon of equal lethality; for the Army to make optimistic assumptions about the intersection

of actual advanced technology developments with their scheduled reduction to practice would be to assure new vulnerabilities, political because of an inability to meet a commitment and military because of reliance on unreliable equipment. On the otherhand, it seems an easy normative projection that all-weather day-night vision equipment could be standard by 1995. Even more important than new technology is the adequate aggregation and deployment of current technology. The RDF has several fundamental requirements, whatever the terrain and climate: overwhelming airlift (C-5, 747, C-17) capability at the division level; over-the-ground mobility not constrained by terrain (wheeled rather than tracked vehicles, perhaps eventually freed from petroleum fuels through the development of gas generator and/or exotic electrical power systems); absolutely dependable "fire-and-forget" anti-aircraft protection most probably longer range lightweight man-portable evolutions of today's shoulder-launched missile systems; and a new plateau of equipment ruggedness,maintainability, and affordability. This last is, of course, important in the acquision phase since it is critical in the operational phase: RDF gear must be cheap enough to be committed to battle or even abandoned if necessary, because sunk costs should not deter field commanders from risking materiel to achieve objectives. The ratios of weapon-cost-to-target-value can be kept favorable to the RDF---if sufficient attention is paid to the development of "transparent" technology and to manageable costs.

One thing seems to become self-evident in consideration of RDF issues: specialized materiel (and, therefore, manpower management and training) must be tailored for each major probable contingency--with terrain, climate, and the opposing forces being the drivers. This goes beyond the cosmetic differences between arctic and tropical uniforms; it affects troop preconditioning (as in indoctrination and immunization programs), materiel selection (as spare parts and munitions mix), mobility options (feet versus machines), and the choice of concealment and "stealth" techniques (such as high technology, terrain, night, weather, or deception). The implications for the Army of being ready to provide tailored sets of equipment, tactics, and manpower for the entire range of RDF contingencies are not insignificant; the costs (and absolute numbers) can only be kept under reasonable control if the command attitudes are commensurate with the mission.

Local Security Control Forces

The third type of Army, that charged with reoccupation and control functions following political, military, paramilitary, or environmental upheaval, makes significantly different demands upon technology to multiply manpower effectiveness. Here the demands are most likely to focus on such matters as personal armor, guaranteed inter-squad radio communications in a city environment (subways, tunnels, buildings), antipersonnel weapons of graduated lethality (with emphasis on crowd control without trauma), surface and airborne personnel carriers able to operate in very cramped quarters, and detectors of all types (e.g., movement, personnel, certain

materials). This class of military or firefighting, evacuation, medical support, police work -- with more conventional military capabilities of firepower, mobility, command-control, and discipline. The "police" army is, more than most, manpower-intensive, it is also expected to be in operation against a relatively circumscribed physical region and supported externally by a friendly population and government. High value is placed on holding physical damage and fatalities to a minimum, on isolating and controlling dissidence rather than killing dissidents.

The technical requirements that flow logically from this assessment of a probable future military function show only a little overlap with those imposed by the other two, more conventionally military, armies. Because the police army's battlefield is inherently in the midst of a continuing civil society, the manpower multiplier effect of technology must focus more on providing some invulnerability to the individual soldier than on increasing that soldier's destructive capabilities, and this means providing him defenses ranging from physical body armor to multi-detector intelligence about his adversary. It may be that new biological, chemical and sonic incapacitation devices and psychological warfare will be critical to success in this role, with almost equal importance given to spoof-proof sensors and communication.

There is little in the US military background and experience since frontier days to qualify the US Army as a firm but benign arm of civil authority; the post-riot presence in US cities of National Guard units of the 82nd Airborne does not meet the test proposed here.

Two models for this class of military activity should suffice: a friendly nation requires assistance to regain control of its major port city from externally supplied urban guerrillas (perhaps a Beirut or a Singapore); a US city, like Chicago, develops a syndrome of rogue violence and becomes the political property of a criminal terrorist infrastructure. In both cases, the problem is the establishment--and maintenance--of local security control without damage to the rights of non-combattants. Military attitudes, as perceived today, are inappropriate to this task; attitudes can be changed through training and education. Military systems today, whether offensive, defensive, or support, are simply not competent to deal with the security control problem without exaggerated lethality and/or physical destruction. Much needs to be done just to understand the typical problems of limited area security restoration; much more needs be done to develop the technologies necessary for this task.

THE RESPONSE TO REQUIREMENTS

The major issue, having reviewed the diverse armies and missions presumed to be needed in the 1990's and beyond, is how to meet the new force requirements within the availabilities (and, by definition, constraints) of the existing system. The ability to manage efficiently a research and development establishment, for example, is critical in the acquisition of new technologies for application to military objectives. Similarly, the rapid mobilization of the industrial base and the basic manpower skills needed to operate, maintain or repair advanced weaponry affect our military flexibility and readiness in a changing geo-political environment.

R&D Management

Turning first to the management of research and development which we must count upon to equip these new forces, it is clear that the process of R&D in the United States is less efficient than perceived--we are getting a good deal less bang for our bucks than we should--and the opponents of America have taken advantage of this weakness. Our military and economic competition has us at disadvantages of our own making. Repairing the process can make a difference: revitalizing our industrial courage and our managerial foresight can help; inculcating new attitudes about present investment for future returns paid in the curriences of strength and survival will contribute; but the Army, together with industry, academe and the public, must see the problem as real before rational action can begin a long-term move toward recovery and retention of US leadership in key technologies. Reliance on our technological superiority has been a keystone of US defense posture. It is becoming increasingly apparent that we can no longer guarantee that our

technological superiority and innovation will compensate for numerical deficiencies or shortfalls in personnel quality.

Army R&D is a key element, not only in the Army's future ability to carry out national policies effectively, but in the larger issue of the underpinnings of our society. Ours is a technological civilization. We impose a framework of controls on the natural world in order to survive and prosper. In a capitalist society, survival and prosperity also mean growth and progress, with emphasis on efficient productivity. Science and technology are critical elements in the overall strength and security of our nation--second only to the national will to survive as a free and independent polity.

From an Army viewpoint, US R&D must contribute meaningfully to the continuum of military objectives: deterrence of war--exemplified by the suggested high efficiency of the Allied future forces in Europe; control of conflict--exemplified by the more limited functions of the RDF and police army; and success on the battlefield--a condition quite different for each of the three exemplary uses of Army forces noted earlier. Since R&D is essentially an investment activity, it should be examined in those terms more than in the more traditional framework of the procurement of goods and services. An R&D investment program presumes continuity resources above some level of critical mass, engaging the best talents of the country in an environment that rewards good performance, encourages synergy, and reinforces the dynamics of progress. The impediments to this ideal state are numerous enough (and often disguised enough) to warrant concern. Many of the important impediments have legitimate rationales for existence quite outside the R&D process. An attack on such impediments will have to take place within a priority framework that

tests the importance of effective R&D contributions to the Army component of national security against a wide range of other valid (albeit often narrower) interests.

Problems with the R&D Process

A few of the main impediments to quality R&D the Army (together for the most part, with the other Services and Departments) faces today are noted below:

- Lead Time: America is the nation of "now." There is national pride in the impatience that lets us say "The difficult we do immediately, the impossible takes a little longer." This treatment of time as though it were infinitely compressible or interchangeable with money or work has certain dangers. It can lead to a belief that a program is begun when policy has been established, or that deployment is possible when only development has been initiated. The natural impatience with the realities of lead time can, under the worst military conditions, lead to a state of "unarmament"--discarding too much of the old while waiting for delivery of enough of the new. It is unfortunately true that a given quantity of systems now deployed in the field--even if of lesser quality--will prevail over far better numbers or far better systems deployed only on paper. Perceptions of lead time, and effective management of system development or replacement, remain serious issues for R&D components aimed at future capabilities as well as forces in being. The Army must exercise enormous internal and self-discipline in order to assure that the future "better" does not drive out the present "good"--and that key R&D decisions are made early and supported adequately.

- R&D Project Management: The typical R&D manager yearns for an ideal world in which his programs have assured continuity, his fiscal and human resources are sufficient to allow capitalization on success and pursuit of breakthroughs, and there is an enduring coherent policy defining the major Army objectives and priorities. It is a political fact of life that such an ideal state is unlikely ever to exist. Overall Army policy--stragetic doctrine and force levels--must respond to a rather choppy and unharmonic electoral system that imposes two- and four-year cycle limits on effective long-range planning. The R&D component, representing as it does the earliest step and the longest lead time item in the evolution of any particular Army capability, is especially vulnerable to the shifts in military fashion that normally accompany the periodic redistribution of political power. Each year, a great deal of energy is expended by the R&D establishment to preserve program momentum, to re-justify projects and activities, and to define once again the relationship of current investment to future force levels. An accurate measure of the ratio between useful military R&D work and the effort going into bureacratic defense of that work may be impossible to establish, but by any standard our process consumes too much of this kind of overhead. And the growing emphasis on military careers in project management, at the expense of command, represents another facet of that problem if some 30 percent of the

of the organization is engaged in procurement, it bodes ill for the residuum.

- The Arsenals: Over the past several decades, the Army's "arsenal concept" has been under severe fire as less efficient and more expensive than virtually any other mechanism for inventing, testing, producing, and deploying needed military hardware. To some observers, the arsenals exist only as fixed employment centers in congressional districts; to others, they are the only reliable reservoirs of certain military-unique skills needed now or in crises and not available on the civil market. While preparedness is a sufficient rationale for some part of the arsenal system, there are other aspects which deserve management attention, overhaul, and change. The "Not Invented Here" syndrome (the unwillingness to accept good ideas from external sources) acts to limit or eliminate rewards for creativity outside the system. There is unwillingness to capitalize upon Allied military R&D--although French, German, British and Israeli advances in weapon systems often outreach our own. Even when an "outside" system is brought "inside," arsenal reengineering often eliminates the elements of excellence that led to its selection.

- Security: The R&D process is, ultimately, dependent upon human intellect. The structure surrounding R&D for military matters seems fraught with interlocking barriers to the organized use of the nation's best talents. There is a tendency, almost a knee-jerk reaction, to rely upon security classification for protection of science and technology--in theory, protection from exploitation against US interests and protection against even knowing that the datum, fact, capability, or vulnerability exists. However, experience suggests that the important technological secrets are available to

our enemies and that security compartmentation, especially in the more basic areas of R&D, hampers effective flow within the US science and technology community. Internal barriers raised by an overly protective security and classification bureaucracy hinder intellectual flow within the system without guarantees that flow out of the system is being controlled. There are (and should continue to be) islands of real secrecy in the R&D business. A too-heavy hand suppressing free inquiry, publication, and personal exchange of experience hinders the internal technology transfer and industrial synergy--while pinpointing to an alert opposition those very secrets one worries about the most. The greatest security comes from getting ahead and staying there, from being in position to deploy rapidly and effectively a technology, or even a science, a full generation ahead of that at the hands of your opponent. Conversely, there can be enormous national chagrin in the realization that the opposition is "better" than you are--and is working successfully at widening the gap.

- Industrial Concerns. Just as most scientific progress is made in national and university laboratories, so most technological advances are made by industry--sometimes from their own investment, sometimes from Federal sources, sometimes by "reverse engineering" or copying another's successful product. This means that the technology itself, the know-how of the art, is the de facto property of some company or corporation. Industry does not profit from "storing" technology on the shelf; if a new engineering solution exists, the company best qualified in the art wants to deploy that solution in products sold to the public or the government. When the technology in question was developed for military application but also has a civil market--like rugged four-wheel drive transmissions--or was

developed for military application but also has a civil market--like rugged four-wheel drive transmissions--or was developed under the economic stimulus of the private sector but has become essential to national security--like the telephone network--there can be valuable cross-fertilization between the markets, resulting in better products and improved productivity. If access to new technology is severely limited by military policy, however, much of this mutual synergism is lost. Also lost is the role of the open marketplace as critic and tester of technological claims. As a result, major military systems are often developed without reference to superior technology available elsewhere--in the private or public sector, at home or abroad. The Army could benefit from developing new strong incentives to improve industry's technological honesty. The Army could also return to more formal vulnerability assessments--unless the "Red Team" philosphy--sustained and organized technological self-criticism and vulnerability-testing-becomes a permanent and economically rewarding part of the military R&D environment, it is unlikely that the Army will be consistently fielding the best equipment for the job.

- Over-sophistication of Technology: The perceived military asymmetry between the United States and the Soviet Union leads us to emphasize advanced technical systems as multipliers of our most precious asset--manpower. In some cases, unfortunately, technologists develop machinery that exceeds normal human control capabilities; modern advanced hardware systems are not readily maintained, easily operated, or comfortably scaled to normal reaction times. Technology by its unconstrained complexity and fragility, can lead to the wrong sort of weapon value assessment and then to a subsequent unwillingness to commit such precious resources in an arena of risk.

In contrast, the manufacturing limitations of the Soviet Union have often led to design philosophies that stress comfortable tolerances and simple assemblies. These are the same qualities that make for easy maintenance and ruggedness in military equipment.

Manpower Implications of Advanced Technology

There are significant linkages between technology and the troops. In the first case, we are running a major risk of fielding weapons beyond the intrinsic grasp of the soldier called upon to man them. This creates a kind of technological disinfranchisement that has its parallel in the other services and in the civil community as well. In the second case, technology may be providing such physical and psychic separation between the soldier and the object of his violence as to remove or suppress the sense of personal responsibility and involvement so necessary for the soldier to remain at the same time a citizen. Technology misunderstood and mismanaged is tantamount to magic, with all the irresponsibility that concept carries in its ancient historical baggage. Unless the manipulators of our military machines can understand the principles behind their operation, can deal rationally with the enormous multiplying effect technology offers the individual, and can, at the same time, recognize the unique value of their own unaugmented physical and mental resources, we are encouraging the development and perpetration of a pseudo-elite so separate from the society they are intended to serve as to echo the political dangers of Rome's Praetoreans or the Ottoman Janissaries.

It may be that, in the long run, the greatest technological challenge the Army faces is assuring a modicum of technological literacy among its members -- officers, NCO's, and privates. The recently released results of test scores comparing Volunteer Army personnel against the medians of the US as a whole are far from encouraging, since both the larger and lesser populations appear woefully underexposed to the lights of science and literacy. The US has, over the past two generations, been undergoing some extra-ordinary experiments in social organization: standards of education and personal responsibility have, together with other national shibboleths, not been immune from these experiments. The quality of education offered -- and particularly the quality of education accepted -- appears to have fallen in recent years. Were the potential enemies of the US in similar straits, parity could be preserved; however, they are not.

The Soviet educational system, from the elementary through professional training levels, demands scientific and technical literacy with an assistance unmatched in the West. The Soviet curriculum, coupled to central control of educational opportunity and review, has turned that once-lagging society into a full-fledged competitor of the West: they exceeded the US percentage of scientists and engineers in 1970; 40% of their undergraduates are in engineering fields -- a numerical advantage of 5 to 1 over the US; they graduate over twice as many doctoral-level scientists and engineers annually as does the US. The Soviets are a first-rate, modern, technological power. They are training their population

to live and work in a society dominated by, and dependent upon, functional machinery. Even the conscripts making up an important percentage of the active Soviet armed forces are; each year, better equipped to deal with high technology in both concept and practice. It is far from certain that a parallel familiarity with technology, and particularly with military technology, is evenly distributed across the US population as a whole and especially across the subset that is attracted to today's volunteer force. Whatever war it chooses to prepare for, the US Army must assess with care the quality of the human resources of which it will dispose -- or else the match of those human resources with technical tools of war could be so imperfect as to render the enterprise powerless.

Returning for the moment to the likely technology needs of the non-European theater armies -- one can be considered as an extension of the RDF concept and the other as a military reoccupation force -- we foresee far less emphasis on directly countering enemy technology with technology of our own. This leads to a dual challenge/opportunity: how to employ US technical tools to their best advantage (remembering that weapons are unsatisfactory surrogates for military spirit, discipline, and skills) and how to avoid becoming the technological hostages of our own materiel. An overstatement may make the point; if the US Army were to attain the technological level of excellence it has set for itself in preparing for the improbable European mid-term conflict, could the Army "win" a Vietnam war revisited? The sobering guess is that we could not -- because we would be pitting hardware developed for other purposes against forces nearly integral with the population from which they spring. Technology cannot -- and should not be asked to -- replace an understanding of the conflict, its participants, and

the objectives of the US involvement.

The problem of technological disenfranchisement is particularly acute in the military Services--and the Army is not immune therefrom. While graduating its junior officers as engineers, the Army does little to permit--or require--technological fluency throughout a military career. Command levels in particular should routinely be reexposed to the current state of science and engineering at home and abroad, to the status and plans of the industrial economy of the West, and to the possible future "over-the-horizon" technical options under active investigation. Without this forced familiarity with the present and the future, the Army can be expected to rely on its conventional and conservative "east war" wisdom--a condition bound to be less productive than one positively linked to technological literacy.

The Industrial Economy

Even a cursory glance at the US industrial base in terms of its potential for meeting the possible demands of military conflict is disquieting. The basic conflict forecasts made over the past decades have all focused on the short war escalating to nuclear exchanges among the superpowers. The US grand strategy, therefore, has been able to overlook or ignore the second of the two major strengths of the US economy: technological inventiveness and high rates of production (after startup). If doctrine were adjusted to encompass the possibility of extended conventional conflict, even in unconventional forums and arenas, then the problems of industrial mobilization take on sharper outlines. Little has been done to update the national mobilization base for the perceived requirements of any of the Services, especially in the newer areas of high technology (electronic parts in particular promise to be a future bottleneck

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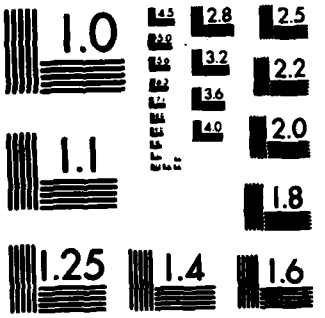


in the event of a quantum jump in military demands. Much is being said these days about raw material stockpiles in face of newly recognized dangers of scarcity; little is being said about the dearth of large extrusion presses, about the irreducible lead-time for titanium forgings, about the lack of modernized plant space, and the growing crisis in rail capacity. The Army alone cannot accept responsibility for the nation's industrial mobilization; the Army cannot avoid its responsibilities for insisting that the very real limits imposed by that constrained industrial base be fully recognized in the Army's plans and commitments. Two very different approaches mark the extremes of this issue: gear up industry to be able to meet mobilization demands in short order to avoid stockpiling or stockpile manufactured end items to avoid having to invest in the industrial base. The first is the most useful for the national economy, in that modernization investments can have non-military payoff; the second provides the naturally conservative military institution the freedom to expend materiel, at least for a given time without concern about instant pipeline resupply. These represent extremes; infact, both approaches must be pursued in balance. In organizing for industrial mobilization, the Army must take care to avoid the natural inefficiencies (and even extravagances) of wartime production and focus necessary investments in modern dual-use machine tools and test equipment. In stockpiling manufactured parts and subsystems, the Army must avoid the trap of early obsolesence of an entire technological stratum (i.e., the rate of change in electronic components is so high that a large investment begun in today's random access memory chips is likely to be negated within a few years by new processes

providing a decade of improvement in packing density, size and reliability). This argues for an acquisition decision process that requires explicit choices as to the mobilization base, stockpiling, and resupply -- choices which must be continually tested against the major assumptions as to the state of technology and the condition of the economy.

Limitations on Standardization

The basic concepts of "Rationalization, Standardization, and Interoperability" (RSI) cannot be faulted. It would make military sense for all allied forces in a given theater to be able to use the same materiel with full assurance that it would meet preagreed standards without regard to the nation of origin. It would make economic sense to achieve economies of scale through mass production of basic military stockpile items--ammunition, small arms, fastners, tires, and the usual long list of battlefield expendables. RSI, however, takes on a political dimension when the issues turn on which nation and which industries should play which role in the arming, arriving, equipping, and supply of the alliance as a whole. The drive for standardization within a national armed service is understandable--and is, in cases of truly common-use items, economic without being dangerous. When carried too far (usually in the name of cost avoidance), standardization can become a serious impediment to the overall effectiveness of the total national military establishment. Equipment should be designed to fit the mission; too often, the mission rules are tailored to fit the limitations of the equipment available. When the internal national accommodations are reached (essentially an interservice political advisory required by the external Administration and congressional authorities), the next step of fitting neatly into the international (NATO) structure

becomes difficult, in that the necessary next tier of accommodation often imparts and unsettles the orchestrated internal balance. This dilemma is particularly real for nations with more than one front to face in their military policies: the US, in particular, must be able to act or respond globally, while most of the NATO allies seek a military scope limited to continental geography.

The example of Britain in the South Atlantic is illuminating: the absence of certain capabilities--shipboard anti missile defense, long-range/high speed interceptors, and early warning--is tied to earlier political/economic decisions on subordination of British military force structure to the NATO model; ergo, no large carrier, no heavy-lift aircraft, and no RDF-like independence of action. For the US Army, it would seem there is a clear lesson here; over-concentration on one aspect of the mission is costly in terms of meeting the demands of the remainder. For RSI, the parallel seems to be that responding to NATO political pressures could risk the Army's ability to meet its own needs and priorities. Even cross-service standarization can be expensive in terms of mission capability: specialized arms and materiel have less of an external political clientele supporting their procurement, and are easier to "defer" on peacetime priority lists that naturally reflect "school solution" doctrinal thinking. The Army, if it undertakes the role of an Armed Services GSA for routine matters, runs the risk of losing the opportunity to equip itself with the right technology for particular jobs at hand--and in quantities that reflect probably future usage rates.

Guidelines for Acquisition

The Army has a formidable job ahead in rearming and re-equipping itself during the next two decades in order to be able to field the kind of competent forces now foreseen as necessary for strategic deterrence (the European Army), for precise projections of power (the RDF), and for response to low-level politicized conflict (the local security control mission). While developing its modern arsenal for these future missions, the Army must maintain current forces at readiness levels that meet present political demands--a major "trip-wire" presence in Europe and the kernel of an RDF. The acquisition of new technical capabilities--and the integration of these into existing force structures--calls for the greatest care and attention to assure that the process is not artificially slowed down or forced too fast; evolutionary modernization should proceed at a pace that creates no new vulnerabilities as a result of gaps between the old and the new.

A few basic ground rules for acquisition of new capability suggest themselves, not as revolutionary concepts but rather as distillations of common sense. First, the Army must be committed to a continuing, flexible, broad-spectrum program of R&D in universities, industry, and in its own laboratories and arsenals. R&D for new technological development should not be focused in too close a paralled to the perceived military planning of the enemy; this creates a mirror image problem which may overlook opportunities for high leverage R&D. At the same time, the Army needs to be quick to accept useful advances made by other services and in other countries; given the constrained level of R&D resources within the national economy as a whole and the Defense establishment in particular, it is imperative that the Army eschew the expensive prerogative of insisting on its

own invention and take the fullest advantage of work going on throughout the world. In order to avoid technological surprise and unexpected hostile countermeasures, the Army should, as a matter of policy, invest a considerable amount of talent in seeking out Army vulnerabilities at every level--hardware, logistics, tactics, and human resources. It is especially important that this relatively inexpensive activity precede, and then be reflected in most major system acquisition decisions. This "Red Team" approach also ties in effectively with the priority-setting that selects technology directions for intensive study. From the discussion of the future battlefields noted above, exhaustive lists of R&D objectives can be developed; using vulnerability assessments as a guide can reduce such lists considerably. For example, the RDF in certain cases would appear most susceptible to air attacks using conventional ordinance, air-fuel-explosives, and chemical and biological munitions, and in other cases to communication interruptions and disinformation from jammers and countermeasures. These, then, establish, prime targets for research and development in anticraft defenses, personnel protection, and electronic hardening.

Second, the Army should ensure that its critical needs--based on primary mission requirements for force projection as well as on vulnerability assessment--are well understood by the research and industrial base that will have to meet them. The degree of private sector uncertainty as to military priorities relates directly to industrial responsiveness and to hardware mission utility. By admitting to more specialization of materiel than has been permitted in the past, the Army should be able to acquire selected new capabilities faster and hopefully at lower cost. Cost of course is and

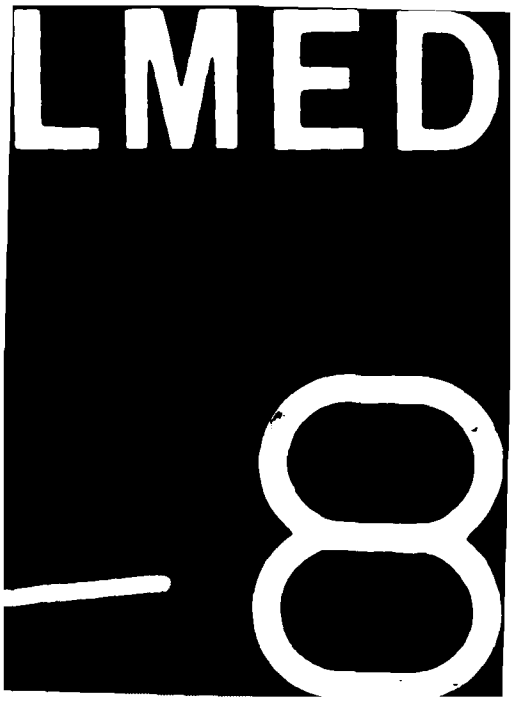
will continue to be a major consideration in the acquisition process however, it cannot be permitted to become the dominant one: when the missions projected for the Army all presume action against difficult odds, the balance between military success and failure will often lie in the dependable, reliable performance of hardware and software systems. At that point, economies applied to the sunk costs of acquisition shrink in importance if they were achieved at the expense of meeting technical requirements.

Third, acquisition plans must reflect, as noted earlier, an accurate assessment of the ability to produce under various future assumptions. The balance between stockpiling and leaving production lines open is necessarily judgemental; however, if basic system design incorporates the concept of modularity, an open production approach allows continuing modernization and update without the dangers of block obsolescence. (This last applies more to the electronic than to the mechanical components of equipment).

Fourth, the Army can increase its flexibility and the value of its financial resources by reducing the complexity of the procurement process itself. It is almost trite to point out that the contractual boilerplate requirements today often outweigh the actual performance requirements: a producer may have to spend as much effort meeting the paperwork demands as in doing the desired work. The Army can use its large in-house resources to reduce rather than increase this burden; in a given case, for example, prescribed arsenal acceptance testing could be the major determinant of satisfactory contract performance and the producer left alone to deliver to that specification

Fifth, the Army must acquire enough materiel to assure complete hands-on training for all its forces. It is better to be profligate in peace with high consumption of military materiel than engage in action without adequate experience. The importance of training in military success, particularly at those lower levels of conflict exemplified by the South Atlantic and Lebanese actions, cannot be overstated. Good training requires far more than equipment, but sufficient equipment, and the willingness to consume it in developing and maintaining readiness, is none-the-less one fundamental necessity.

Sixth and last, the Army's acquisition strategy should take the fullest advantage of the cost and value asymmetries inherent in the area of weaponry. This means favoring the inexpensive expendable weapon that can threaten an opposing high-cost, high-value capital weapon--classically, the longbow and the mounted knight, more recently the Exocet and the Sheffield. This is an obvious conclusion to draw from a defensive point of view, as in the European case where NATO expects to be severely outnumbered in heavy armor and therefore needs to rely on advanced antitank capabilities. The same military economics, however, should dominate both the RDF and local control armaments, in that it is poor tactics and bad materiel management to risk limited capital resources to cheap interdiction.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